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TOPOGRAPHIC AND GEOLOGIC SURVEY COMMISSION OF PENNSYLVANIA

REPORT No. 8

1911

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PY G345/3.19/4 no.8

Topographic and Geologic Survey

OF

Pennsylvania

RICHARD R. HICE, State Geologist.

REPORT No. 8

The Mineral Production of Pennsylvania, 1911

Part A. Coal and Coke.

Part B. Petroleum and Natural Gas.

Part C. Clay and Clay Products, Sand Lime, Brick.

Part D. Copper, Nickel, Iron Ore, Salt and Bromine, Abrasive Materials, Graphite, Feldspar and Quartz, Talc and Soapstone, Slate, Mineral Pigments, Cement, Sand and Gravel, Mineral Waters.

Part E. Quarry Products, Granite, Trap Rock, Sandstone, Blue Stone, Marble, Limestone, Lime.

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TOPOGRAPHIC AND GEOLOGIC SURVEY COMMISSION.

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176745

THE MINERAL PRODUCTION OF PENNSYLVANIA, 1911.

The following table gives in brief the quantity and value of the several minerals and mineral products produced in Pennsylvania in 1911, and the comparative production for the years 1904-1910.

There being less than three producers of some of the lesser minerals, the figures are concealed to prevent disclosure of individual production.

OUTPUT AND VALUE OF THE MINERAL PRODUCTS OF PENNSYLVANIA, 1904 to 1911.

PRODUCT.	1904.		1905.		1906.		1907.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Natural cement, barrels,	770 897	$298,533	748,057	$306,555	744,403	$560,534	625,871	$263,969
Portland cement barrels,	11,496,099	8,969,206	13,813,487	11,195,940	18,645,015	18,598,439	20,393,965	19,698,006
Clay Products,		16,821,863		19,124,553		21,774,611		20,291,621
Anthracite coal, long tons,	65,318,490	138 974,020	69,339,152	141,879,000	63,645,010	131,917,694	76,432,421	163,584,056
Bituminous coal, short tons,	97,952,267	94,434,219	118,413,637	113,390,507	129,293,206	130,290,651	150,143,177	155,664,026
Copper, pounds,								
Feldspar, short tons,	21,077	146,154					19,633	136,847
Glass sand, short tons,	294,333	346,370	361,829	482,937	342,967	510,910	370,977	489,989
Graphite, pounds,							1,674,000	51,960
Iron ores, long tons,	397,107	611,211	808,610	1,060 162	949,429	1,246,267	837,287	1,298,717
Iron, pig, long tons,	7,644,321		10,579,127	177,090,000	11,247,869		11,348,549	234,952,000
Lime, short tons	567,300	1,537,673	620,018	1,672,267	624,060	1,857,754	655,166	2,075,842
Metallic paint and mortar colors, short tons,	7,710	107,609	8,596	123,570	11,021	136,086	10,327	127,973
Millstones,		1,494		1,351		2,624		2,016
Mineral waters, gallons sold,	743,050	90,465	1,322,594	194,113	1,506,286	280,054	1,287,063	235,807
Natural gas,		18,139,914		19,197,336		18,558,245		18,844,156
Ocher, short tons,	4,077	29,355	7,789	72,360	8,597	79,244	8,047	76,816
Petroleum, barrels,	11,125,762	18,222,242	10,437,195	14,653,278	10,256,893	16,596,943	9,999,306	17,579,706
Sand and gravel, short tons,	1,843,405	934,224	3,666,975	1,753,372	4,889,908	1,969,901	5,428,471	2,292,571
Sand lime, brick,		20,495		63,226		62,921		48,410
Slate,		3,633,246		3,491,905		3,522,149		3,855,640
Stone,		7,341,180		7,956,177		8,804,776		9,132,372
Clay,	196,977	323,624	235,510	406,388		572,331		618,143
Other products				6,339,386				6,874,095

OUTPUT AND VALUE OF THE MINERAL PRODUCTS OF PENNSYLVANIA, 1904 to 1911.

PRODUCT.	1908.		1909.		1910.		1911.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Natural cement, barrels,	252,479	$87,192	295,085	$98,673	196,331	$56,777	160,046	$48,096
Portland cement, barrels,	18,254,806	13,899,807	22,896,614	15,969,621	26,675,978	19,551,268	26,864,679	19,258,253
Clay Products,		14,842,982		21,186,713		22,094,285		20,270,033
Anthracite coal, long tons,	74,347,102	158,178,849	72,374,249	149,181,587	75,433,246	160,275,302	80,771,488	174,952,415
Bituminous coal, short tons,	117,179,527	118,816,303	137,966,791	130,085,237	150,521,526	153,029,510	144,754,163	146,347,858
Copper, pounds,					740,626	94,060	611,621	76,452
Feldspar, short tons,	14,089	103,502	18,573	111,466	15,091	104,751	13,284	101,090
Glass sand, short tons,	405,028	484,353	281,120	399,707	434,147	617,200	478,089	668,247
Graphite, pounds	356,000	16,740	2,098,000	116,466	1,392,767	82,194	1 490,000	80,300
Iron ores, long tons,	443,161	572,346	606,889	792,672	739,799	911,847	514,929	539,553
Iron, pig, long tons,	6,987,191	111,385,000	10,918,824	175,429,000	11,272,323	180,695,338	9,581,109	136,328,507
Lime, short tons,	582,352	1,883,496	885,239	2,532,454	877,714	2,440,350	841,723	2,688,374
Metallic, paint and mortar colors, short tons,	9,197	113,112	16,174	196,067	10,774	125,466	10,924	131,279
Mineral waters, gallons sold,		1,073						
Millstones,	1,430,489	180,889	2,177,967	240,856	2,536,337	221,685	2,327,732	216,819
Natural gas,		19,104,944		20,457,207		21,057,211		18,010,796
Ocher, short tons,	9,286	78,956	4,137	45,472	3,642	32,254	3,013	28,101
Petroleum, barrels,	9,424,325	16,881,194	9,299,403	15,424,554	8,794,662	11,908,914	8,248,158	10,894,074
Sand and gravel, short tons,	3,725,414	1,718,703	4,918,627	2,113,363	5,242,362	2,357,021	5,689,059	3,025,267
Sand lime, brick,		64,123		62,255		72,827		
Slate,		3,902,958		2,892,358		3,740,806		3,431,351
Stone,		6,371,152		8,125,723		8,571,518		8,147,505
Clay,		466,385		644,411		636,613	329,197	567,622
Other products,		4,951,276		5,167,682		4,473,836		

COAL.

COAL

The earliest recorded production of coal in the United States is 22 tons of Pennsylvania anthracite mined in the year 1814.*a*

The increase since that date in the production of both anthracite and bituminous coal in the United States and in Pennsylvania is given in the following table, which shows a combined reported production of all coal in Pennsylvania of 5,667,289,997 tons and a grand total in the United States of 8,739,572,427 tons, the production of Pennsylvania being about 65 per cent. of the entire total of the United States.

PRODUCTION OF COAL IN PENNSYLVANIA AND IN THE UNITED STATES FROM 1814 TO THE CLOSE OF 1911.*a*

Year.	Pennsylvania Anthracite.	Pennsylvania Bituminous.	Pennsylvania Total.	United States.
1814,	22		22	22
1815,	50		50	50
1816,	75		75	75
1817,	100		100	100
1818,	200		200	200
1819,	350		350	350
1820,	450		450	3,450
1821,	1,322		1,322	1,322
1822,	4,583		4,583	58,583
1823,	8,563		8,563	68,563
1824,	13,685		13,685	80,725
1825,	42,988		42,988	117,988
1826,	59,194		59,194	147,914
1827,	78,151		78,151	172,151
1828,	95,500		95,500	195,908
1829,	138,086		138,086	240,086
1830,	215,272		215,272	320,072
1831,	217,842		217,842	337,942
1832,	447,550		447,550	594,050
1833,	600,907		600,907	734,657
1834,	464,015		464,015	600,515
1835,	690,854		690,854	824,854
1836,	842,832		842,832	984,832
1837,	1,071,151		1,071,151	1,253,651
1838,	910,075		910,075	1,355,527
1839,	1,008,322		1,008,322	1,560,360
1840,	967,108	461,826	1,431,934	2,070,039
1841,	1,182,441	475,000	1,657,441	2,291,141
1842,	1,365,563	500,000	1,865,563	2,610,057
1843,	1,556,753	650,000	2,206,753	3,060,874
1844,	2,009,207	675,000	2,684,207	3,681,252
1845,	2,480,032	700,000	3,180,032	4,309,904
1846,	2,887,815	760,000	3,647,815	4,865,522
1847,	3,551,005	399,840	3,950,845	5,286,067
1848,	3,805,942	500,000	4,305,942	5,773,974
1849,	3,995,334	750,000	4,745,334	6,448,831

a See page 13-17 for an account of earlier mining of anthracite where it is shown that coal was shipped from the Wyoming valley at an earlier date. It is also said that coal was mined in the Broad Top coal field of Pennsylvania prior to the year 1800.

Year.	Pennsylvania Anthracite.	Pennsylvania Bituminous.	Pennsylvania Total.	United States.
1850,	4,138,164	1,000,000	5,138,164	7,018,181
1851,	5,481,065	1,200,000	6,681,065	8,734,525
1852,	6,151,957	1,400,000	7,551,957	9,816,664
1853,	6,400,426	1,500,000	7,900,426	10,570,288
1854,	7,394,875	1,650,000	9,044,875	11,977,102
1855,	8,141,754	1,780,000	9,921,754	12,926,673
1856,	8,534,779	1,850,000	10,384,779	13,546,925
1857,	8,186,567	2,000,000	10,186,567	13,340,189
1858,	8,426 102	2,200 000	10,626,102	13,974,478
1859,	9 619,771	2,400,000	12,019.771	15,633,175
1860,	8,115,842	2,690,786	10,806,628	14,610,042
1861,	9,799,654	3,200,000	12,999,654	16,488,012
1862	9,695,110	4,000,000	13,695,110	17,485,835
1863,	11,785 320	5,000,000	16,785,320	21,319,062
1864,	12,538,649	5,839,000	18,377,649	23,605,123
1865,	11,891,746	6,350,000	18,241,746	23,792,173
1866,	15,651,183	6,800,000	22,451,183	29,033,583
1867	16,002,109	7,300,000	23,302,109	30,724,422
1868,	17,003,405	7,500,000	24,503,405	32,861,960
1869,	17 083,134	6,750,000	23,833,134	32,904,360
1870,	15,664,275	7,798,518	23,462,793	33,035,580
1871,	19,342 067	9,040,565	28,382,622	46,885,080
1872	24,233,166	11,695,040	35,928,206	51,453,399
1873,	26,152,837	13,098,829	39,251,666	51,602,480
1874,	24,818,790	12,320,000	37,138,790	52,605,920
1875,	22 485,766	11,760,000	34,245,766	52,348,320
1876,	22,793,245	12,880 000	35,673,245	53,280,000
1877,	25,660,316	14,000,000	39,660,316	60 501,760
1878	21,689,682	15,120,000	36,809 682	57,935,000
1879,	30,207,793	16,240,000	46,447,793	68,105,799
1880,	28,649,812	18,425,163	47,074,975	71,481,570
1881,	31,920,018	22,400,000	54,320,018	85,881,030
1882,	35,121,256	24,640,000	59,761,256	103,551,189
1883,	38,456,845	26,880,000	65,336,845	115,707,525
1884	37,156,847	28,000,000	65.156,847	120,155,551
1885,	38,835,974	26,000,000	64,335,974	111,160,295
1886,	39,035,446	27,094,501	66,129,947	113,680,427
1887,	42 088,197	31,516,856	73,605,053	130,650,511
1888,	46,619,564	33,796,727	80,416,291	148,659,657
1889,	45,546,970	36,174,089	81,721,059	141,229,513
1890	46,468,641	42,302,173	88,770,814	157,770,963
1891,	50,665,431	42,788,490	93,453,921	168,566,669
1892,	52,472,504	46,694,576	99,167,080	179,329,071
1893,	53 967,543	44,070,724	98,038,267	182.352,774
1894,	51,921,121	39,912,463	91,833,584	170,741,526
1895,	57,999,337	50,217,228	108,216,565	193,117,530
1896,	54,346,081	49,557 453	103,903,534	191,986,357
1897,	52 611,680	54,417,974	107,029,654	200,229,199
1898,	53,382,644	65,165,133	118,547,777	219,976,267
1899,	60,418,005	74,150,175	134,568,180	253,741,192
1900	57,367 915	79,842,326	137,210,241	269,684,027
1901,	67,471,667	82,305,946	149,777,613	293,299,816
1902,	41,373,595	98,574,367	139,947,962	301,590 439
1903,	74 607,068	103,117,178	177,724,246	357,356,416
1904,	73,156 709	97,938,287	171,094,906	351,816,398
1905,	77,659,850	118,413,637	196,073,487	392,722,635
1906,	71,282,411	129,293,206	200,575,617	414,157,278
1907,	85,604 312	150,143,177	235,747,489	480,363,424
1908,	83 268,754	117,179,527	200.448,281	415,842,698
1909	81,070,359	137,966,791	219,037,150	460,814,616
1910,	84,485,236	150,521,526	235.006,762	501,596,378
1911,	90,464,067	144,754,162	235,218,230	496,221,168
	2,270,798,737	2,396,491,260	5,667,289,997	8,739,572,427

The growth of the coal output in Pennsylvania has been simply marvelous. In the year 1882, when the first report on the mineral production was issued by United States Geological Survey, the total output of the United States was a little over 100,000,000 tons. The total output of the United States in 1911 was five times this amount, and that of Pennsylvania was two and one-third times the total for 1882. In 1890 the output of coal in Great Britain exceeded that of the United States by 30 per cent. Within a decade, however, the United States had overtaken Great Britain, and now the output of this Country exceeds it by 68 per cent.

The combined production of anthracite and bituminous coal in Pennsylvania in 1911 exceeded that of 1910 by 211,468 short tons, a little less than one per cent. quantity, and by $8,232,438 or 2.63 per cent in value. The output of anthracite increased, while that of bituminous decreased, the greater portion of the decrease of the latter being in that portion of the output made into coke. Pennsylvania's coal production exceeds that of any other country in the world except Great Britain and Germany, and is only exceeded by the latter by about 23,000,000 tons, 10 per cent. of the output of the State. The output in Pennsylvania is more than four times that of Austria-Hungary, the third producing country in the world; more than five times that of France, more than eight times that of Belgium, and amounts to almost one-fifth of the entire production of the world. From 1829 to 1901 Pennsylvania produced over 50 per cent. of all the coal mined in the United States, and since then has produced from 45 to 50 per cent. of the whole. It is but natural that notwithstanding the increase in total production, the proportion of the total output of the United States mined in Pennsylvania should gradually decline.

Mr. Parker has pointed out and called attention to the rapid increase in the production of bituminous coal compared with that of anthracite. This, of coure, is due to the fact that anthracite is no longer used in iron making and but little in any line of manufacture, being a domestic fuel. The bituminous production, on the other hand, owes its great development to the growth of the United States in manufacturing and bears a somewhat close relation to the increased output of manufactured products.

ANTHRACITE COAL.

ANTHRACITE COAL

The entire production of anthracite coal is from Pennsylvania, and any report upon the output of this State is, therefore, but a re-statement of the report of Mr. Edward D. Parker, of the United States Geological Survey.*a*

The early history of the anthracite industry is worthy of study, and the following condensed account of the earlier developments is taken from an article by Mr. William Griffith in the Coal Age, of July 13, 1912, in which it will be seen that developments had been made and coal shipped from the Wyoming Valley a number of years before the time usually assigned for the earliest mining on a commercial scale in this country.

"The frequently published statistics of shipments of anthracite coal from Pennsylvania, and notably those published by the bureau of Anthracite Statistics of New York, begin with the shipment of 350 tons from the Lehigh region in 1820, the inference being that the anthracite trade originated at Mauch Chunk, in the Lehigh region. This, of course, is incorrect, and therefore it may not be amiss to set down a few facts in connection with the actual beginnings of the anthracite coal trade of Pennsylvania.

"In 1776, coal was shipped down the Susquehanna River from the Wyoming Valley to Harrisburg, and hauled in wagons to Carlisle, Penna., for use in connection with the manufacture of firearms. These shipments were continued during the Revolutionary War, and other consignments were made from time to time until about 1807. These early shipments of anthracite were for use in blacksmith forges, for it was not then known that it was possible to burn this coal in any other way than by using forced draft. Of course, no very extensive trade could exist under such conditions.

"On February 11, 1808, Judge Jesse Fell, of Wilkes-Barre, made his famous experiment, whereby he discovered that anthracite would burn in an ordinary grate, without forced draft, and thus laid the foundation for extensive coal trade. The knowledge of this experiment and its results quickly spread throughout the Wyoming Valley, and every house was soon supplied with its coal-burning grate.

"John and Abijah Smith, two young men from Derry, Connecticut, had moved into the Wyoming Valley and begun mining coal. In

a The small production of Anthracite Coal in other portions of the United States is included under the head of Bituminous Coal in the reports of the Mineral Resources of the United States, issued by the United States Geological Survey.

1807 they shipped 55 tons down the Susquehanna River to Columbia, Penn. Their mine was at Plymouth, and they had formed the coal mining firm of Abijah Smith & Co.

"These enterprising Yankees were quick to take advantage of Judge Fell's discovery. They continued their business of shipping coal in arks by the Susquehanna River to Columbia, Baltimore and other river points, and accompanied their cargoes in person, taking with them tools, grates, and workmen skilled in setting up the latter. The two Smiths installed these grates in private houses and other places and taught the people how to burn the coal. They extended their territory by re-shipping at Havre de Grace, Md., in coastwise vessels.

"Local histories contain the following letter and account current from Price & Waterbury, the first coal merchants of New York City, which in this connection is a very interesting paper, illustrating, as it does, not only the indomitable energy of this pioneer anthracite coal firm, but also the condition and amount of the anthracite trade in the great city of New York at that early date.

"New York, February, 1813.

"Messrs. Abijah Smith Co.

"Gentlemen: Having lately taken a view of the business we have been conducting for you this sometime past, we thought it would be gratifying to have the account forwarded, and therefore, present you with a summary of it up to the 18th of January, 1813, containing first, the quantity of coal sold, and to whom; second, the amount of cash paid to us from time to time; third, the amount of interest cash on the various sums advanced; the credit of interest on the sums received, and lastly, the quantity of coal remaining on hand unsold. Should you on the receipt of this find any of the items incorrect, we needly hardly observe that the knowledge of such an error will be corrected with the greatest pleasure. As it respects our future plan of procedure, we shall expect to see one of your concern in the city sometime in the spring, when a new arrangement may be fixed upon. Our endeavors to establish the character of the coal shall not at any time be wanting, and we calculate shortly to dispose of the remaining parcels unsold.

"1812:

"By cash of Doty & Willets, for 5 chaldrons of coal, ...	$100 00
By cash of John Withington, for 5 chaldrons of coal, ...	100 00
By cash of Coulthaid & Son, for 10 chaldrons of coal, ...	200 00
By John Benham's note, 90 days, for 10 chaldrons of coal, ...	200 00

By cash G. P. Lorrillard, for 1 chaldron of coal,	20 00
By cash of J. J. Wilson, for 4 chaldrons of coal,	80 00
"June 13:	
By cash of Doty & Willets, for 5 chaldrons of coal,	100 00
By cash G. P. Lorrillard, for 11½ chaldrons of coal,	230 00
By A. Frazyer's note, 90 days, for 25 chaldrons of coal,	475 00
By cash received of T. Coulthaid, for 5 chaldrons of coal,	100 00
By M. Womas' note, 90 days, for 20 chaldrons of coal,	380 00
By half measurements, received for 9 bushels of coal,	6 33
By B. Ward and T. Blagge, for 1¼ chaldrons, at $20 per chaldron,	25 00
By Wittingham, for ½ chaldron of coal,	10 00
June 25, by Pierpont, for ½ chaldron of coal,	11 00
June 25, by Mr. Landis, for ½ chaldron of coal,	12 00
July 16, by Robert Barney, for 17½ chaldrons of coal, at $22 per chaldron,	385 00
Sept. 15, by cash for ½ chaldron of coal,	12 50
Oct. 9, by Wm. Colman, for ½ chaldron of coal,	12 50
Oct. 9, by Sexton & Williamson, for 1½ chaldrons of coal,	37 50
Oct. 24, by cash for 1 chaldron of coal,	25 00
Oct. 29, by cash for ½ chaldron of coal,	12 50
Nov. 7, by cash for ½ chaldron of coal,	12 50
Nov. 12, by cash for 1 chaldron of coal,	25 00
Nov. 16, by Mr. A. Le Briton, for 12 chaldrons of coal at $25 per chaldron,	288 50
Dec. 5, by cash for ½ chaldron of coal,	12 50
Dec. 11, by cash A. Dailey for ½ chaldron of coal,	12 50
Dec. 14, by cash for ½ chaldron of coal,	12 00
"1813:	
"Jan. 4, by cash 1 chaldron of coal,	25 00
Jan. 18, by J. Curtis, for 9 bushels of coal,	6 27
By amount of balance this day,	763 12
Total,	$3,601 20

Errors excepted.

PRICE & WATERBURY."

"Smith & Company continued their trade, increasing it annually, until about 1831. In the year 1820, which the statistics of the bureau record as the beginning of the trade, there were severeal mines making regular shipments from the Wyoming region, amounting in all to over 2,500 tons annually. The old mine formerly operated by Abijah

Smith & Co., still exists at the head of Coal Street, in the Borough of Plymouth, Penn., where it may easily be inspected by any one who cares to drive along the highway, which passes close to its entrance.

"About 1814, three gentlemen from Wilkes-Barre, Miner, Sist and Robinson, knowing that coal existed at or near Mauch Chunk, concluded to engage in the anthracite trade from that locality, with the Philadelphia market in view. During this year they shipped several boat loads of coal down the Lehigh River, two of which arrived at Philadelphia and were purchased by White & Hazzard for $21 per ton, and used in their wire mills at the falls of Schuylkill.

"A few wagon loads had arrived in Philadelphia previous to this date, but the coal was discarded by the purchasers, and used up in making walks, the sellers of the coal being denounced as imposters. It is said that White & Hazzard, after ineffectual efforts to make the coal burn by the usual methods employed for handling wood fires, closed their furnace doors in utter disgust and went to their noonday meal. Upon returning they found the furnace at white heat and concluded that the proper way to burn anthracite coal was to shut the furnace door and "let it alone."

"These two men became firmly convinced, through their first successful effort to use anthracite in the iron industry, that it was a valuable fuel, and in 1815, White, Hazzard & Hanto began negotiations for a lease on the Lehigh Coal Company's land at Mauch Chunk. This lease covered 10,000 acres, for a period of twenty years the terms being "one ear of corn per year, if demanded," etc. After many failures to navigate the rapid and rocky waters of the Lehigh, they eventually succeeded in establishing a business in the transportation of coal from Mauch Chunk down the Lehigh River to Philadelphia, and in 1820, shipped 365 tons.

"This coal was mined from open quarries at Summit Hill. Subsequently, as the trade by the Lehigh River increased, canals were built. The first railroad shipments from that section were made in or about 1855.

"During all this time the trade from the Wyoming region was continued by Abijah Smith & Co., and others. It was shipped down the stream in Susquehanna River arks, until the building of the Pennsylvania Canal, about 1831. The Delaware and Hudson Railroad first shipped coal from the Carbondale region in 1829. Shipments from Scranton district were made over the Delaware, Lackawanna and Western, about 1851. Rail shipments from the Wilkes-Barre district began about 1846 and from the Schuylkill region, 850 tons were transported over the Reading Railroad in 1841.

"From the foregoing brief account of the beginnings of the anthracite trade it will be noted that previous to 1820, there was a flourishing trade in coal, by way of the Susquehanna River, from the Wyoming field, and that two years before coal was first satisfactorily used in Philadelphia it was a commodity in New York City. This latter fact was due to the enterprise of Abijah Smith & Co., the originators and pioneers in the anthracite trade of Pennsylvania, to whom the rightful credit should now be given."

The production of anthracite coal reached in 1911 the highest point in its history, exceeding the previous high record of 1907 by 4,300,000 long tons. The total output was 80,771,488 long tons, valued at $175,189,392. In 1910 the output was 75,432,246 long tons, valued at $160,275,302, showing an increase in 1911 of 5,338,242 long tons in quantity and $14,914,090 in value, an increase of 7 and 9 per cent. respectively. This increase in the anthracite industry was in marked contrast with the bituminous coal, which showed a marked decline in most regions of production. In the bituminous regions there was generally a decrease in prices, without a corresponding reduction in cost, while the average price of anthracite coal increased 5 cents per ton. This increase in price was not due to a general advance in prices, but to an increase in the proportion of the larger, higher priced sizes and a less production of the cheaper coals recovered by washeries.

The fact that the three year wage agreement would expire March 31, 1912, stimulated production in the latter portion of 1911, but all storage coal was practically exhausted before suspension of work.

Of the total production of 80,771,488 long tons, only 87.2 per cent. was shipped to distant markets. The amount sold locally was 2,050,403 tons, or 2.5 per cent. and 8,279,488 tons, or 10.3 per cent. were used in the operation of the mines and washeries, as compared with 2.3 per cent. used in the operation of the bituminous mines of Pennsylvania in 1911.

One of the marked features of the anthracite mines is the steadiness which they are worked. There are but few industries of any kind that can show as steady operation. From 1897 to 1901 the average number of days worked ranged from 150 to 196 with an average of 165 days. From 1906 to 1910 the number of days worked ranged from 195 to 279, with an average of 210 days, and in 1911 the average number of days worked reached 246.

The different sections of the anthracite fields have long received distinct names by which they are known both locally and in the several markets. The relation of the local fields, the local districts, and the trade regions are shown in the following table:

Anthracite coal fields, by field, local district, and trade region.

Coal Field or Basin.	Local District.	Trade Region.
Northern,	Carbondale,	Wyoming.
	Scranton,	
	Pittston,	
	Wilkes-Barre,	
	Plymouth,	
	Kingston,	
Eastern Middle,	Green Mountain,	Lehigh.
	Black Creek,	
	Hazelton,	
	Beaver Meadow,	
	Panther Creek,	
Southern,	East Schuylkill,	Schuylkill.
	Western Schuylkill,	
	Lorberry,	
	Lykens Valley,	
Western Middle,	East Mahanoy,	
	West Mahanoy,	
	Shamokin,	

The anthracite fields are reached by eleven so-called initial railroads as follows:

Philadelphia and Reading Railway.
Lehigh Valley Railroad.
Central Railroad of New Jersey.
Delaware, Lackawanna and Western Railroad.
Delaware and Hudson Company's Railroad.
Pennsylvania Railroad.
Erie Railroad.
New York, Ontario and Western Railway.
Delaware, Susquehanna and Schuylkill Railroad (part of Lehigh Valley system).
New York, Susquehanna and Western Railroad (part of Erie system).

Lehigh and New England Railroad (under construction).

The growth of the anthracite industry from 1820 is shown by the following table. This table does not include coal sold locally or that used in and about the mines and washeries, nor that mined in Sullivan County, embracing only the coal shipped from the Lehigh, Schuylkill and Wyoming regions. The portion of this table covering the years 1820 to 1884 was published by the Second Geological Survey of Pennsylvania in report AA Part One, 1885.*b*

ANNUAL SHIPMENTS FROM THE SCHUYLKILL, LEHIGH AND WYOMING REGIONS, 1820 to 1911, IN LONG TONS.*a*

YEARS.	Schuylkill.		Lehigh Region.		Wyoming Region.		Total.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
1820,			365				365	
1821,			1,073				1,073	
1822,	1,480	39.79	2,240	60.21			3,720	
1823,	1,128	16.23	5 823	83.77			6,951	
1824,	1,567	14.10	9,541	85.90			11,108	
1825,	6,500	18.60	28,393	81.40			34,893	
1826,	16,767	34.90	31,280	65.10			48,047	
1827,	31,360	49.44	32,074	50.56			63,434	
1828,	47 284	61.00	30,232	39.00			77,516	
1829,	79,973	71.35	25,110	22.40	7,000	6.25	112,083	
1830,	89,984	51.50	41,750	23.90	43,000	24.60	174,734	
1831,	81,854	46.29	40,966	23.17	54,000	30.54	176,820	
1832,	209,271	57.61	70.000	19.27	84,000	23.12	363,271	
1833,	252,971	51.87	123,001	25.22	111,777	22.91	487,749	
1834,	226,692	60.19	106,244	28.21	43,700	11.60	376,636	
1835,	339,508	60.54	131,250	23.41	90,000	16.05	560,758	
1836,	432,045	63.16	148,211	21.66	103,861	15.18	684,117	
1837,	530,152	60.98	223 902	25.75	115,387	13.27	869,441	
1838,	446,875	60.49	213,615	28.92	78,207	10.59	738,697	
1839,	475,077	58.05	221 025	27.01	122,300	14.94	818,402	
1840,	490,596	56.75	325,313	26.67	148,470	17.18	864,379	
1841,	624,466	65.07	143,037	14.90	192,270	20.03	959,773	
1842,	583,273	52.62	272,540	24.59	252,599	22.79	1,108,412	
1843	710,200	56.21	267,793	21.19	285,605	22.60	1,263,598	
1844,	887,937	54.45	377,002	23.12	365,911	22.43	1,630,850	
1845,	1,131,724	50.22	429,453	21.33	451,836	22.45	2 013,013	
1846,	1,308,500	55.82	517,116	22.07	518,389	22.11	2 344,005	
1847,	1,665 735	57.79	633,507	21.98	583,067	20.23	2,882 309	
1848,	1,733,721	56.12	670,321	21.70	685.196	22.18	3,089,238	
1849,	1,728,500	53.30	781,556	24.10	732,910	22.60	3 242,966	
1850,	1,840 620	54.80	690,456	20.56	827,823	24.64	3,358,899	
1851,	2,328,525	52.34	964,224	21.68	1,156,167	25.98	4,448 916	
1852,	2,636,825	52.81	1,072,136	21.47	1,284,500	25.72	4,993,471	
1853	2,665,110	51.30	1 054,309	20.49	1,475.732	28.41	5,195,151	
1854,	3,191,670	53.14	1,207,186	20.13	1,603,478	26.73	6,002,334	
1855,	3,552,945	53.77	1,284,113	19.43	1,771,511	26.80	6 608,567	
1856,	3 603,029	52.91	1,351,970	19.52	1,972,581	28.47	6,927,580	
1857,	3,373,797	50.77	1 318,541	19.84	1,952,603	29.39	6,644,941	
1858,	3,273,245	47.86	1,380,030	20.18	2,186,094	31.96	6,839.369	
1859,	3 448,708	44.16	1,628,311	20.86	2,731,236	34.98	7,808 255	

a The shipment of 365 tons in 1820, was from the Lehigh region. The first shipment from the Wyoming region is given by the table in 1829. Mr. Griffith has collected data, showing the Wyoming region shipped about 2,500 tons in 1820, beginning with 55 tons in 1807. This information was received too late to include in the tables for this year.

b Report of the Pennsylvania Bureau of Anthracite Coal Statistics and not including coal sold locally, or used at or about the mines, nor shipments from Sullivan county mines.

ANNUAL SHIPMENTS FROM THE SCHUYLKILL, LEHIGH AND WYOMING REGIONS, 1820 TO 1911, IN LONG TONS.

YEARS.	Schuylkill.		Lehigh Region.		Wyoming Region.		Total.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
1860,	3,749,632	44.04	1,821,674	21.40	2,941,817	34.56	8,513,123	
1861	3,160,747	30.74	1,738,377	21.85	3,056,140	38.41	7 954,264	
1862,	3,372,583	42.86	1,351,054	17.17	3,145,770	39.97	7,869,407	
1863,	3,911,683	40.90	1 894,713	19.80	3,759,610	39.30	9,566,006	
1864,	4,161,970	40.89	2,654,069	20.19	3,960,836	38.92	10,177,475	
1865,	4,356,959	45.14	2,040,913	21.14	3,254,519	33.72	9 652,391	
1866,	5,787,902	45.56	2,179,364	17.15	4,736,616	37.29	12,703,882	
1867	5,161,671	39.74	2 502,054	19.27	5,325,000	40.99	12,988,725	
1868,	5,330,737	38.52	2,502,582	18.13	5,968,146	43.25	13,801,465	
1869,	5,775,138	41.66	1,949,673	14.06	6,141,369	44.28	13 866,180	
1870,	4 968,157	30.70	3,239,374	20.02	7,974,660	49.28	16,182,191	
1871,	6,552,772	41.74	2 235,707	14.24	6,911,242	44.02	15,699,721	
1872,	6,694,890	34.03	3,873,339	19.70	9,101,549	46.27	19,699,778	
1873	7,212,601	33.97	3,705,596	17.46	10,309,755	48.57	21 227,952	
1874,	6,866,877	34.09	3,773,836	18.73	9,504,408	47.18	20,145,121	
1875,	6,281,712	31.87	2 834,605	14.38	10,596,155	53.75	19,712,472	
1876,	6 221,934	33.63	3,854,919	20.84	8,424,158	45.53	18,501,011	
1877,	8,195,042	39.35	4,332,760	20.80	8,300,377	39.85	20 828,179	
1878,	6,282,226	35.68	3,237,449	18.40	8,085,587	45.92	17,605,262	
1879	8,960,829	34.28	4,595,567	17.58	12,586,293	48.14	26,142,689	
1880,	7,554,742	32.23	4,463,221	19.05	11,419,279	48.72	23,437,242	
1881,	9,253,958	32.46	5,294,676	18.58	13,951,383	48.96	28,500,017	
1882,	9 459,288	32.48	5,689,437	19.54	13,971,371	47.98	29,120,096	
1883,	10,074,726	31.69	6,113,809	19.23	15,604,492	49.08	31,793,027	
1884,	9,478,314	30.85	5,562,226	18.11	15,677,753	51.04	30,718,293	
1885	9,488,426	30.01	5,898,634	18.65	16,236,470	51.34	31,623,530	
1886,	9,381,407	29.19	5,723,129	17.89	17,031,826	52.82	32,136,362	
1887,	10,609,028	30.63	4,347,061	12.55	19,684,929	56.82	34,641,018	
1888,	10 654,116	27.93	5,639,236	14.78	21,852,366	57.29	38,145,718	
1889,	10,486,185	29.28	6,294,073	17.57	19,036,835	53.15	35,817,093	
1890,	10,867,822	29.68	6,329,658	17.28	19,417,979	53.04	36,615,459	
1891	12,741,258	31.50	6,381,838	15.78	21.325,240	52.72	40,448,336	
1892,	12,626,784	30.14	6,451,076	15.40	22,815,480	54.46	41,893,340	
1893,	12,357,444	28.28	6,892,352	15.99	23,839,741	55.33	43,089,537	
1894,	12 035,005	29.08	6,705,434	16.20	22,650,761	54.72	41,391,200	
1895,	14,269,932	30.68	7,298,124	15.69	24,943,421	56.63	46,511,477	
1896,	13,097,571	30.34	6,490,441	15.03	23,589,473	54.63	43,177,485	
1897	12,181,061	29.26	6,249,540	15.00	23,207,263	55.74	41,637,864	
1898,	12,078,875	28.83	6,253,109	14.92	23,567,767	56.25	41,899,751	
1899,	14,199,009	29.79	6,887,909	14.45	26,578,286	55.76	47,665,204	
1900	13,502,732	29.94	6,918,627	15.33	24,686,125	54.73	45,107,484	
1901,	16,019,591	29.92	7,211,974	13.45	30,337,036	56.63	53,568,601	
1902,	8,471,391	27.15	3,470,736	11.12	19,258,763	61.73	31,200,890	
1903	16,474,790	27.75	7,164,783	12.07	35,723,258	60.18	59,362,831	
1904,	16,379,293	28.49	7,107,220	12.36	34,006,009	51.15	57,492,522	
1905,	17,703,099	28.83	7,849,205	12.78	35,857,897	58.39	61,410,201	
1906,	16,011,285	28.75	7,046,617	12.65	32,640,693	58.60	55,698,595	
1907,	20,141,288	30.01	8,320,653	12.41	38,638,452	57.58	67,109,393	
1908,	18,006,464	27.85	7,786,255	12.04	38,872,295	60.11	64,665,014	
1909,	16,864,147	27.21	7,532,271	12.16	37,573,467	60.63	61,969,885	
1910,	17,845,020	27.49	8,627,539	13.29	38,433,227	59.22	64.905,786	
1911,	19,375,369	27.70	9,775,018	13.97	40,803,912	58.33	69,954,299	
Total,	576,745,104	31.70	283,258,115	15.57	959,347,466	52.73	1,819,350,685	

For several years a change has been taking place in the proportion of the several sizes of anthracite coal demanded by the trade. The portion of the unprofitable sizes required to fill the demands was

formerly out of proportion to the more profitable ones. In 1890 the portion of sizes above "pea" was 76.9 per cent. of the whole output and that of the sizes of "pea" and smaller was 23.1 per cent. In 1907 this proportion had so changed that the sizes above "pea" had fallen to 58.6 per cent., and that of pea or smaller was increased to 41.4 per cent. The following table shows the shipments of the output and the sizes of coal shipped in the years 1890 (when the first washery was installed), 1907, 1908, 1909, 1910 and 1911 in long tons.

SHIPMENTS OF ANTHRACITE, EXCLUDING WASHERY PRODUCT, BY SIZES, 1890, 1907, 1908, 1909, 1910 and 1911, IN LONG TONS.

Year.	Sizes above pea.		Pea and smaller.		Total shipment.
	Quantity.	Percentage.	Quantity.	Percentage.	
1890,	28,154,678	76.98	8,419,181	23.02	36,573,859
1907,	30,301,444	62.57	23,506 867	37.43	62,808,311
1908,	38,280,708	62.74	22,738,056	37.26	61,018,764
1909,	36,550,499	61.9	22,438,390	38.1	58,988,889
1910	38,387,111	61.5	24,029,332	38.5	62,416,443
1911,	41,641,918	62.0	25,573,938	38.0	67,215,856

The following table showing the shipments of anthracite coal for the years 1905 to 1911, and the quantities shipped each month during that time, will show the uniformity of the production and the effect of the depression in business in the fall of 1907 upon the output during the latter months of that year and the year of 1908.

MONTHLY SHIPMENTS OF ANTHRACITE, 1905 TO 1911 IN LONG TONS.a

MONTH.	1905	1906	1907.	1908.	1909.	1910.	1911.
January,	4,408,578	5,458,084	5,249,946	5,618,339	5,183,345	5 306,618	5,904,117
February,	3,922,601	4,712,099	4,563,720	4,503 756	4,576,004	5,031,784	5,070,948
March,	5,258,567	5,797,167	5,235,814	4,766,158	6,332,474	5 174,106	5,996,894
April,	5,278,041	488,203	5,916,583	5,987,221	5 891,176	6,224,396	5,804,915
May,	6,005,158	3,254,230	5,994,272	6,088 116	5,063,873	5,679,661	6,317,352
June,	5,344,052	5,676,018	5 976,906	5,704,852	4,904 858	5,398,123	6,215,357
July,	4,546,743	4,981,448	5,669,054	4,541,506	4,020 765	4,202,059	4,804,065
August,	5,041,838	5,400,511	5,765,347	4,599 093	4,198,273	4,996,044	5,531,796
September,	5,082,232	4,527,886	5,512,717	5,211 047	4,116,120	4,967,516	5,730,935
October,	5,205,694	5,384,768	6,108,065	5,977 497	5 579,759	5,622,095	6,269,179
November,	5,421,584	5,182,153	5,743,522	5,839,491	6.027 800	6,071,746	6,193,314
December,	5,395,113	4,836,028	5,343,477	5,827,938	5,775 438	6,231,578	6,115,427
Total,	61,410,201	55 098,595	67,109,393	54,665 014	61,969,885	64,905,786	69,954,259

a Reported by State Bureau of Anthracite Statistics. Not including shipments from Sullivan county or coal recovered by dredges from the Susquehanna River.

The most interesting and valuable results of the study of the anthracite production are shown by the following tables, in which are given the output of the several sizes of coal in each of the several counties producing anthracite during years 1909, 1910 and 1911. It would be equally of interest to have the output from the several districts into which the fields are divided, but the figures of production as collected will not admit of compilation in that manner.

QUANTITY AND PERCENTAGE OF EACH SIZE OF ANTHRACITE SHIPPED FROM EACH COUNTY IN 1909, 1910, AND 1911.

1909

County.	Lump and Steamboat.		Broken.		Egg.		Stove.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon, --	68,276	8.63	185,346	5.39	217,087	2.79	279,688	2.40
Columbia, .	51,129	6.46	67,621	1.97	125,255	1.61	137,705	1.18
Dauphin, --	----------	----------	26 549	.77	42,974	.55	88,934	.76
Lackawanna, --	72,216	9.12	657,015	19.11	2,052,505	26.37	3,242,653	27.88
Luzerne, --	197,443	24.94	1,348,921	39.23	3,228,754	41.49	4,826,735	41.43
Northumberland, .	41,800	5.28	142,177	4.13	468,028	6.01	952,304	8.17
Schuylkill, .	338,909	42.82	955,239	27.78	1,516,213	19.48	1,928,765	16.55
Sullivan, --	----------	----------	10.341	.30	52,101	.67	67,386	.60
Susquehanna and Wayne, --	21,750	2.75	45,349	1.32	80,040	1.03	125,722	1.08
Total, .	791,523	100.00	3,438,558	100.00	7,782,957	100.00	11,651,892	100.00

County.	Chestnut.		Pea		Buckwheat No. 1.		Buckwheat No. 2.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon, ---	318,910	2.46	268,792	3.51	281,893	3.08	222,679	3.96
Columbia, .	155,162	1.20	119,287	1.56	123,177	1.35	60,859	1.08
Dauphin, --	106,407	.82	70,775	.93	160,773	1.76	126,642	2.25
Lackawanna, --	3,374,727	26.04	1,917,208	25.06	2,053,985	22.46	1,610,758	28.66
Luzerne, --	5,707,893	44.04	2,735,081	35.74	3,362,755	36.78	1,730,902	30.80
Northumberland, .	965,011	7.44	626,139	8.18	858,162	9.39	524,535	9.34
Schuylkill, .	2,165,742	16.71	1,757,595	22.97	2,297,650	25.13	1,305,796	23.24
Sullivan, --	101,418	.78	67,095	.88	4,998	.05	37,712	.67
Susquehanna and Wayne, --	66,614	.51	89,696	1.17				
Total,--	12,961,887	100.00	7,651,668	100.00	9,143,393	100.00	5,619,883	100.00

QUANTITY AND PERCENTAGE OF EACH SIZE OF ANTHRACITE SHIPPED FROM EACH COUNTY IN 1909, 1910 AND 1911.—Continued.

1909

County.	Buckwheat No. 3.		Screenings.		Total.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon,	118,691	3.58			1,961,362	3.13
Columbia,	2,490	.08			842,685	1.34
Dauphin,	11,327	.34	9,219	2.85	643,600	1.03
Lackawanna,	1,403,970	42.30	11,233	3.48	16,396,270	26.16
Luzerne,	1,260,957	37.99	36,969	11.45	24,436,413	38.98
Northumberland,	41,676	1.26	343	.11	4,620,175	7.37
Schuylkill,	479,658	11.45	39,762	12.32	12,785,329	20.40
Sullivan,			225,503	69.79	525,644	.84
Susquehanna and Wayne,					471,881	.75
Total,	3,318,769	100.00	322,829	100.00	62,683,329	100.00

1910

County.	Lump and Steamboat.		Broken.		Egg.		Stove.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon,	38 201	5.29	180,273	5.37	298,015	3.75	340,687	2.83
Columbia,	16,599	2.30	24,328	.73	104,979	1.32	103,777	.86
Dauphin,			27,463	.82	42,562	.54	95,362	.79
Lackawanna,	41,106	5.69	538,418	16.03	1,846,128	23.23	3,548,387	29.49
Luzezne,	221,338	30.62	1,520,253	45.26	3,410,093	42.91	4,671,497	38.83
Northumberland,	50,904	7.04	160,580	4.79	495,863	6.24	987,841	8.21
Schuylkill,	354,619	49.06	884,518	26.33	1,647,590	20.73	2,120,098	17.62
Sullivan.			14,518	.41	50,209	.63	64,053	.53
Susquehanna,			8,724	.26	51,661	.65	100,211	.84
Total,	722,767	100.00	3,359,072	100.00	7,947,100	100.00	12,031,912	100.00

QUANTITY AND PERCENTAGE OF EACH SIZE OF ANTHRACITE SHIPPED FROM EACH COUNTY IN 1909, 1910 AND 1911.—Continued.

1910.

County.	Chestnut.		Pea.		Buckwheat No. 1.		Buckwheat No. 2. and Rice.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon,	437,970	3.05	292,216	3.72	392,472	4.15	372,409	6.05
Columbia,	182,442	1.27	91,305	1.16	122,362	1.29	75,355	1.23
Dauphin,	99,661	.69	62,602	.80	143,702	1.52	121,564	1.98
Lackawanna,	3,939,588	27.44	2,121,208	27.02	2,169,377	22.92	1,651,619	26.85
Luzerne,	5,900 099	41.53	2,689,939	34.27	3,170,730	33.50	1,816,623	29.53
Northumberland,	1,042,018	7.26	647,502	8.25	924,162	9.76	580,150	9.43
Schuylkill,	2,457,086	17.12	1,804,709	22.99	2,456,691	25.96	1,524,569	24.78
Sullivan,	100,077	.70	67,193	.86	85,032	.90	9,383	.15
Susquehanna,	134,927	.94	73,358	.93				
Total,—	14,354,468	100.00	7,850,032	100.00	9,464,528	100.00	6,151,678	100.00

County.	Buckwheat No. 3. and Barley.		Screenings.		Total.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon,	86,078	2.53			2,438,321	3.71
Columbia,	7,223	.21			728,370	1.11
Dauphin,	2,361	.07	7,671	1.78	602,948	.92
Lackawanna,	1,518,030	44.66	17,066	3.95	17,290,927	26.46
Luzerne,	1,314,123	38.66	111,066	25.73	24,886,361	37.87
Northumberland,	71,437	2.10			4,960,463	7.55
Schuylkill,	355,409	10.45	73,107	16.93	13,678,396	20.82
Sullivan,			222,839	51.61	518,889	.79
Susquehanna,	44,790	1.32			508,086	.77
Total,	3,399,451	100.00	431,749	100.00	65,712,761	100.00

QUANTITY AND PERCENTAGE OF EACH SIZE OF ANTHRACITE SHIPPED FROM EACH COUNTY IN 1909, 1910 AND 1911.—Continued.

1911.

County.	Lump and Steamboat.		Broken.		Egg.		Stove.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon ...	20,158	3.80	173,761	4.79	283,119	3.35	368,218	2.82
Columbia, .	16,395	3.09	6,488	.18	105,783	1.25	141,185	1.08
Daupbin, ..	----------	----------	24,562	.68	47,729	.56	108,862	.83
Lackawanna, ..	21,266	4.00	569,848	15.71	2,132,722	25.22	3,700,818	28.34
Luzerne ..	189,113	35.61	1,679,338	46.30	3,628,839	42.91	5,254,302	40.25
Northumberland,..	18,962	3.57	199,949	5.51	496,441	5.87	1,054,065	8.07
Schuylkill, .	265,105	49.93	922 331	25.43	1,651,102	19.53	2,255,032	17.27
Sullivan, ..	----------	----------	12,919	.36	54,907	.65	74,780	.57
Susquehanna, ..	----------	----------	37,503	1.04	55,639	.66	99,865	.77
Total,..	530,999	100.00	3,626,699	100.00	8,456,281	100.00	13,057,127	100.00

County.	Cbestnut.		Pea.		Buckwheat No. 1.		Buckwbeat No. 2.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon, ...	549,793	3.43	338 719	4.09	372,147	3.78	278,778	4.47
Columbia, .	209,097	1.30	121,523	1.47	172,920	1.76	132,193	2.12
Daupbin, ..	93,816	.59	55,040	.66	139,580	1.42	141,599	2.27
Lackawanna, ..	4,345,345	27.11	2,225,293	26.88	2,371,171	24.12	1,799,528	28.84
Luzerne, ..	6,612,686	41.25	2,770,109	33.46	3,113,707	31.67	1,688,735	27.07
Northumberland,..	1,208,915	7.54	687,719	8.30	1,025,962	10.43	641,347	10.28
Scbuylkill, .	2,775,099	17.32	1,926,524	23.27	2,556,601	26.00	1,536,952	24.68
Sullivan, ..	109,371	.68	75,195	.91	----------	----------	----------	----------
Susquehanna, ..	127,346	.79	79,442	.96	80,431	.82	20,002	.32
Total,..	16,031,468	100.00	8,279,564	100.00	9,832,519	100.00	6,239,134	100.00

QUANTITY AND PERCENTAGE OF EACH SIZE OF ANTHRACITE SHIPPED FROM EACH COUNTY IN 1909, 1910 AND 1911.—Continued.

1911.

County.	Buckwheat No. 3.		Screenings.		Total.	
	Quantity.	Percentage.	Quantity.	Percentage.	Quantity.	Percentage.
Carbon,	126,828	3.23	1,154	0.28	2,512,675	3.57
Columbia,	13,244	.34	----------	----------	918,828	1.30
Dauphin,	38,913	.99	1,563	.38	651,664	.93
Lackawanna,	1,729,354	44.07	15,914	3.89	18,911,259	26.87
Luzerne,	1,331,623	33.93	88,443	21.61	26,356,895	37.44
Northumberland,	128,101	3.26	5,902	1.44	5,467,363	7.77
Schuylkill,	505,663	12.89	33,076	8.08	14,427,485	20.50
Sullivan,	----------	----------	263,224	64.32	590,396	.84
Susquehanna,	50,741	1.29	----------	----------	550,969	.78
Total,	3,924,467	100.00	409,276	100.00	70,387,534	100.00

The entire output of anthracite coal for the years of 1900 to 1911 is shown by the following table. This includes not only the coal shipped, but that sold locally, the portion used in and about the mines and washeries, and the amount recovered by dredges from the Susquehanna River.

ANTHRACITE PRODUCTION IN PENNSYLVANIA 1900 TO 1911.

County.	Shipped.	Sold to local trade and employees.	Used at mines for steam and heat.	Total.
1900.				
Susquehanna,	464,431	9,724	22,277	496,432
Lackawanna,	11,547,926	276,342	828,634	12,652,902
Luzerne,	16,721,735	458,576	1,784,180	18,964,491
Carbon,	1,610,738	34,226	198,922	1,843,886
Schuylkill,	9,898,949	186,572	1,351,460	11,436,981
Columbia,	794,839	10,953	69,851	875,643
Sullivan,	169,138	1,351	5,449	175,938
Northumberland,	3,639,291	80,879	460,256	4,180,426
Dauphin,	429,575	20,350	144,729	594,654
Total,	45,276,622	1,078,972	4,865,758	51,221,353
1901.				
Susquehanna,	623,614	9,870	30,002	663,486
Lackawanna,	14,584,747	301,731	987,842	15,874,320
Luzerne,	18,997,180	520,486	1,828,071	21,345,737
Carbon,	1,525,896	27,638	220,724	1,774,258
Schuylkill,	11,900,379	185,809	1,592,453	13,678,641
Columbia,	994,316	14,366	73,931	1,082,613
Sullivan,	125,929	3,790	4,740	134,459
Northumberland,	4,373,070	99,926	474,469	4,947,465
Dauphin,	569,399	21,864	150,318	741,581
Total,	53,694,530	1,185,480	5,362,550	60,242,560

ANTHRACITE PRODUCTION IN PENNSYLVANIA 1900 TO 1911.—Continued.

County.	Shipped.	Sold to local trade and employees.	Used at mines for steam and heat.	Total.
1902				
Susquehanna,	373,451	9,792	21,005	404,248
Lackawanna,	9,659,014	269,678	850,576	10,779,268
Luzerne,	11,040,374	377,379	1,435,073	12,852,826
Carbon,	796,791	24,621	164,789	986,201
Schuylkill,	6,240,258	193,278	1,270,666	7,704,202
Columbia,	588,058	11,323	70,734	670,115
Sullivan,	285,230	2,982	7,788	296,000
Northumberland,	2,308,253	92,719	477,643	2,878,615
Dauphin,	194,691	13,883	160,661	369,235
Total,	31,486,120	995,655	4,458,935	36,940,710
1903.				
Susquehanna,	670,467	8,936	35,571	714,974
Lackawanna,	16,459,302	359,154	1,012,125	17,830,581
Luzerne,	22,377,088	540,324	2,060,283	24,977,695
Carbon,	1,647,522	24,839	206,809	1,879,170
Schuylkill,	12,380,127	157,306	1,681,621	14,219,054
Columbia,	1,103,615	13,874	91,355	1,208,844
Sullivan,	246,626	2,647	12,468	261,741
Northumberland,	4,253,233	80,488	511,610	4,845,331
Dauphin,	471,477	17,554	187,033	676,064
Total,	59,609,457	1,205,122	5,798,875	66,613,454
1904.				
Susquehanna,	577,079	8,440	32,731	618,250
Lackawanna,	15,703,059	424,359	1,082,305	17,209,723
Luzerne,	21,678,253	589,932	2,190,594	24,458,779
Carbon,	1,744,543	30,338	228,808	2,003,689
Schuylkill,	12,149,852	212,461	1,810,980	14,173,293
Columbia,	926,571	16,069	85,595	1,028,235
Sullivan,	234,656	4,876	23,241	262,773
Northumberland,	4,249,306	101,406	567,130	4,917,842
Dauphin,	463,859	22,822	159,225	645,906
Total,	57,727,178	1,410,703	6,180,609	65,318,490
1905.				
Susquehanna,	563,882	8,803	34,588	607,273
Lackawanna,	16,044,175	384,668	1,097,152	17,525,996
Luzerne,	23,405,910	584,890	2,225,718	26,216,518
Carbon,	1,910,390	44,117	238,722	2,193,229
Schuylkill,	13,734,616	230,383	1,814,416	15,779,415
Columbia,	986,592	16,915	94,437	1,097,944
Sullivan,	244,231	4,286	25,650	274,167
Northumberland,	4,221,377	108,022	590,699	4,920,098
Dauphin,	543,259	20,560	160,694	724,513
Total,	61,654,432	1,402,644	6,282,076	69,339,152
1906.				
Susquehanna,	456,967	8,542	36,369	501,878
Lackawanna,	15,015,345	370,577	1,141,797	16,527,719
Luzerne,	20,636,738	550,661	2,259,890	23,447,289
Carbon.	1,744,229	64,164	214,130	2,022,523
Schuylkill,	12,512,308	229,125	1,722,600	14,464,033
Columbia,	736,816	14,548	107,939	859,303
Sullivan,	287,830	4,548	27,825	320,203
Northumberland,	4,143,877	106,361	595,818	4,846,056
Dauphin,	452,315	20,568	183,123	656,006
Total,	55,986,425	1,369,094	6,289,491	63,645,010

ANTHRACITE PRODUCTION IN PENNSYLVANIA 1900 TO 1911—Continued.

County.	Shipped.	Sold to local trade and employees.	Used at mines for steam and heat.	Total.
1907.				
Susquehanna,	520,955	9,623	44,503	575,081
Lackawanna,	17,955,465	382,730	1,570,532	19,908,727
Luzerne,	24,081,491	606,902	2,581,483	27,329,876
Carbon,	2,150,801	50,035	257,381	2,458,217
Schuylkill,	15,625,710	256,264	2,081,171	17,963,145
Columbia,	931,767	14,136	115,051	1,060,954
Sullivan,	349,391	5,152	32,155	386,698
Northumberland,	5,302,642	109,534	506,493	6,008,669
Dauphin,	640,562	22,455	178,037	741,054
Total,	67,458,784	1,516,831	7,456,806	76,432,421
1908.				
Carbon,	2,056,630	60,640	259,180	2,376,450
Columbia,	911,681	16,428	127,539	1,055,648
Dauphin,	553,840	23,366	188,712	765,918
Lackawanna,	17,654,782	386,684	1,615,802	19,657,268
Luzerne,	24,553,934	669,688	2,753,107	27,976,729
Northumberland,	4,609,627	105,067	592,057	5,306,751
Schuylkill,	13,935,526	258,286	2,088,154	16,281,966
Sullivan,	453,961	6,039	31,710	491,710
Susquehanna,	388,994	10,375	35,293	434,662
Total,	65,118,975	1,536,573	7,691,554	74,347,102
1909.				
Carbon,	1,961,362	77,665	260,872	2,299,899
Columbia,	842,685	16,713	118,503	977,901
Dauphin,	643,600	23,871	165,022	832,493
Lackawanna,	16,396,270	593,772	1,533,918	18,523,960
Luzerne,	24,426,413	781,827	2,864,321	28,072,561
Northumberland,	4,620,175	103,728	622,632	5,349,535
Schuylkill,	12,785,329	200,617	2,073,031	15,118,977
Sullivan,	525,644	6,234	39,086	570,964
Susquehanna and Wayne,	471,881	8,399	41,440	521,720
River dredges,	9,136	85,243	1,860	96,239
Total,	62,692,495	1,961,069	7,720,685	72,374,249
1910.				
Carbon,	2,438,321	64,800	299,734	2,802,855
Columbia,	728,370	12,837	104,141	845,348
Dauphin,	602,948	55,931	132,364	791,243
Lackawanna,	17,390,927	453,670	1,721,768	19,566,365
Luzerne,	24,886,361	732,449	2,928,993	28,547,803
Schuylkill,	13,678,396	279,137	1,986,641	15,944,174
Sullivan,	518,889	6,898	39,175	564,962
Northumberland,	4,960,463	119,408	633,398	5,713,269
Susquehanna,	508,086	9,935	47,373	565,394
River dredges,	22,263	69,017	553	91,833
Total,	65,735,024	1,804,082	7,894,140	75,433,246
1911.				
Carbon,	2,512,675	87,986	346,113	2,946,774
Columbia,	918,828	11,165	135,843	1,065,836
Dauphin,	651,664	51,525	142,316	845,505
Lackawanna,	18,911,259	618,619	1,699,265	21,229,143
Luzerne,	26,356,895	771,536	3,074,968	30,203,399
Northumberland,	5,467,363	110,699	649,657	6,227,719
Schuylkill,	14,427,485	304,026	2,138,081	16,869,592
Sullivan,	590,396	7,203	42,963	640,562
Susquehanna,	550,969	9,809	48,058	608,836
River dredges,	17,400	76,643	604	94,647
Total,	70,404,934	2,049,211	8,277,868	80,732,013

The history of the development and growth of the anthracite industry is better known than that of bituminous coal. The following chronology has been compiled by Mr. William Griffith, of Scranton, and covers in brief form the main facts relative to the anthracite industry.

1710—Existence of coal beds known by Indians.

1754—July 11, Lackawanna and Wyoming Valley coal regions included in the sale of property by Five Nations to the Susquehanna Connecticut Company. The purchase price of the entire tract was but £2,000, about $10,000.

1762—First Connecticut settlers, after camping at mouth of Mill Creek, above Wilkes-Barre, for several days, and cutting hay on Jacob's Plains, returned to Connecticut and reported discovery of anthracite coal.

1763—"At a meeting of the Susquehanna Company held at Windham, in Connecticut, April 17, 1763, it appearing to this company that some of the proprietors of our purchase of lands at Susquehanna River, to the number of two or three hundred, desire that the lands be laid out into several townships as a part of their rights for the speedy settlement of said lands.

FIRST RESERVATION OF COAL.

"It is therefore voted that there shall be eight townships laid out on said river as near as may be to the townships granted as gratuity to the first settlers, each of said townships to contain five square miles of land, fit for good improvement, or equivalent thereunto as the land may suitably accommodate, at the discretion of a committee hereafter to be named and appointed for that purpose, reserving for the use of the company for their after-disposal, all beds of iron ore and coal that may be within the towns ordered for settlement.

"This would appear to be the first discovery and mention of anthracite coal in the country."—Dr. Egie's History of Pennsylvania.

It is also undoubtedly the first instance of a coal reserve deed, which are so familiar in this region to-day.

1766—Indians from this locality visiting Governor of Pennsylvania, complained of robbing of mine by whites, believed to have been a coal mine. In letter from James Tilghman, of Philadelphia, to the proprietaries, Thomas and Richard Penn, Spring Garden, London, it is stated that a Col. Francis had found a very great fund of coal at Wyoming in the hills which surround a very fine and extensive belief. "This coal," said the letter, "is thought to be very fine. With his compliments Col. Francis sends you a piece. This bed of coal, situate as it is on this side of the river, may at some time or other be a thing of great value."

1768—Charles Stewart surveyed Sunbury, across river from Wilkes-Barre, and on maps indicated presence of "stone coal" at Ross Hill, now Edwardsville.

FIRST BURNED IN FORGE.

1769—Obadiah Gore first burned anthracite in his smith forge at Wilkes-Barre.

1775—Coal mined on banks of Susquehanna, near Pittston.

1776—Two Durham boats from down the river came to Wyoming for coal. It was purchased from R. Geer, who had a mine opening above the mouth of Mill Creek. This coal was later used in the manufacture of arms at Carlisle, Pa.

1779—Major George Grant, of Sullivan's army, writing from Wyoming, says, "The land here is excellent and contains vast mines of coal, lead and copper."

1783—John Schopf, in "Travels," mentions a visit he made in this year to a bed of brilliant black coal, a mile above Wyoming, which on handling leaves no taint and burns without emitting an offensive odor.

1788—Nails made with anthracite by Judge Jesse Fell, of Wilkes-Barre, Pa.

1790—Coal known to be plentiful in Schuylkill County, but not used.

1791—Coal was accidently discovered by Philip Ginter, a hunter, in the neighborhood of Mauch Chunk. Specimens were carried to Philadelphia in saddle bags by Col. Jacob Weiss, who purchased the land upon which the discovery was made.

1792—Col. Weiss and others formed the Lehigh Coal Mine Co., the first of the kind in the United States.

1795—Blacksmith named Whetstone used anthracite in Schuylkill.

1799—Coal discovered at Carbondale.

1800—Coal shipped to Philadelphia from Pottsville.

1803—Lehigh Coal Mine Co. succeeded in getting two ark loads, about thirty tons, to market at Philadelphia, but no purchasers could be found. City authorities as an experiment attempted to burn it beneath the boilers at the water works, but it only served to put the fire out and the remainder was broken up and distributed over the sidewalks of the vicinity in place of gravel.

1803—Anthracite coal first burned in a grate in Philadelphia. Although this experiment was successful it excited no public interest and no results followed beyond the simple record of the fact.

1806—Another boat load sent Philadelphia from Lehigh region and rejected.

1807—Abijah Smith & Co. began mining at Plymouth, in Wyoming Valley; shipped 55 tons.

JESSE FELL'S EXPERIMENT.

1808—On February 11, Judge Jesse Fell made an experiment in the bar room of his hotel at the corner of Washington and Northampton streets and on the fly leaves of a blook entitled "The free Mason's Monitor," he made the following memorandum:

"February 11th, of Masonry 5808. Made the experiment of burning the common stone coal of the valley in a grate, in a common fire place in my house, and find it will answer the purpose of fuel, making a clearer and better fire, at less expense, than burning wood in the common way. February 11th, 1808.

"JESSE FELL."

This experiment excited great interest and people came from far and near to watch further experiments which were made in a grate of iron and soon there were dozens of similar grates being constructed and put into use. It is the one hundredth anniversary of this event which was celebrated February 8, 1908, at Wilkes-Barre, Pa.

BEGINNING AND EARLY DEVELOPMENT OF COAL TRADE.

The coal trade for export really commenced in 1808 and those who first started in the business and continued in it were John and Abijah Smith, of Plymouth. These young men left their home in Derby, Conn., in 1805-06, and immediately purchased coal land and engaged in mining coal. They shipped the first ark of coal to Columbia, Pa., in 1807. The following year they sent several arkloads to Columbia and with them sent masons who constructed fireplaces for the purchasers of coal, in which the coal might be burned. At this time coal sold for about $10 per ton.

1812—Col. George Shoemaker discovered coal on Schuylkill and carted nine wagon loads to Philadelphia. He sold two loads and was later denounced as an imposter by the purchasers and was compelled to give the rest away.

1812—Abijah Smith & Co., of Plymouth, Pa., making shipments to Baltimore and New York City in coasting vessels from Havre de Grace, Md., the coal being successfully used there.

1812—The first anthracite coal firm in New York City was Price & Waterbury, who handled this coal for Abijah Smith & Co., selling at $25.00 per chaldron of 3,000 lbs.

1813—George M. Hollenback shipped two arkloads of coal from Mill Creek mine. Joseph Wright, of Plymouth, mined two arkloads of coal from mines of brother Samuel G. Wright, of New Jersey,

at a point near Port Griffith. Charles Miner and Jacob Cist about this time started to write news articles for the Philadelphia, Baltimore and New York papers and thus aroused interest in the product. They leased a mine near Mauch Chunk in 1813 and in 1814 took an arkload of coal down the river to Philadelphia and disposed of it after much difficulty.

1814—Miner, Cist & Robinson made their first shipment to Philadelphia from near Mauch Chunk. Two boatloads arrived in Philadelphia and were largely purchased by White and Hazard for $21.00 per ton and used in the first successful effort to utilize anthracite in the iron industry at their wire mills at Falls of Schuylkill.

1815—Being firmly convinced of the value of the coal, White, Hazard & Hanto set about securing a lease on Lehigh Coal Mine Company land near Mauch Chunk, for 10,000 acres for 20 years, for "one ear of corn per year, if demanded," etc., and succeeded.

1814-15—Coal mined at Carbondale and shipped via Lackawaxen and Delaware Canal to Philadelphia.

1815—Schuylkill Navigation Company organized.

1817—Coal trade well established and coal the chief article of export and the local fuel of Wyoming Valley. Several mines in operation, shipping 2,000 tons per year down Susquehanna River.

1818—White & Hazard secured passage by Pennsylvania Legislature of "An act to improve the navigation of the Lehigh River." Lehigh Navigation Company and Lehigh Coal Company organized and merged into the Lehigh Coal and Navigation Company.

LEHIGH COAL TRADE BEGINS.

1820—About 12,000 tons shipped to date and 2,500 tons shipped per year from Wyoming Valley, Lehigh Coal and Navigation Company began mining and shipping; price, Philadelphia, $8.40 per ton. Shipment this year 365 tons.

1821—Half dozen mines operating in Wyoming Valley and shipping via Susquehanna River. Coal at mines valued at 50 cents a ton, cost 50 cents a ton to mine, and 50 cents a ton to haul to river. Price at Harrisburg, Columbia and other river points, $4.00 to $4.50 per ton.

1823-1825—Delaware and Hudson Canal Company organized.

1825—Schuylkill canal was completed from Mt. Carbon to Philadelphia.

1826—Coal discovered near Hazleton.

FIRST RAILROAD BUILT.

1828—First railroad built by Delaware and Hudson Canal Company.

1829—Baltimore Coal Company organized to mine coal at Wilkes-Barre. Delaware and Hudson Canal Company began shipping from Carbondale.

1829—Lehigh Canal opened Mauch Chunk to Easton.

1830—Stephen Girard purchased from trustees of late Bank of United States 28,200 acres of land in Pennsylvania at $1 per acre, which included the present coal lands of the Girard Estate.

1831—North Branch Canal completed to Nanticoke.

1831—Nesquehoning Railroad and plane built.

1831—Morris Canal opened Phillipsburg to Newark; opened to Jersey City, 1836; leased by Lehigh Valley Railroad Company, 1872.

1832—Little Schuylkill Railroad began transporting coal from Tamaqua region.

1832—Shamokin division Northern Central Railroad originally opened. Reorganized 1851. Leased to Northen Central Railroad, 1863.

1833—Delaware division Pennsylvania Canal opened.

1834—Wyoming and State Canals opened.

1837—Lehigh navigation to White Haven opened.

1837—Shipments of coal began from Beaver Meadow region.

1837—Shipments of coal began from Pine Grove via Union Canal.

1837—Morris & Essex Railroad opened. Leased to D. L. & W. Railroad, 1869.

1838—Col. James W. Johnson, of Pittston, Pa., secured charter from State for Pennsylvania Coal Company.

1838—Shipments of coal began from Hazleton region.

1838—Washington Coal Company organized.

1839—Summit Branch Railroad opened. Leased to S. B. R. R. Co., 1866.

1838—Shipment of coal began from Shamokin region westward.

1839—Shipments of coal began from Lykens Valley region westward.

1840—Shipments of coal began from Buck Mountain region.

1840—Quakake Railroad opened. Extended and opened to Mt. Carmel, 1862.

1841—Philadelphia and Reading Railroad transported 850 tons of coal.

1842—Philadelphia and Reading Railroad began transporting coal through to Port Richmond.

RAIL SHIPMENTS FROM WILKES-BARRE.

1846—Rail shipments of coal began from Wilkes-Barre via L. & S. R. R. planes and Lehigh canal.

1847-48—Wm. R. Griffith, for the Wyoming Coal Association purchased large areas of coal land about Pittston at $100.00 per acre and transferred same to Pennsylvania Coal Company.

1849—Washington Coal Company merged into Pennsylvania Coal Company. William R. Griffith, president.

1850—Pennsylvania Coal Company began business, and building of Gravity railroad to Hawley.

1850—Total shipment from all regions for year 3,358,899 tons.

1851—Delaware, Lackawanna and Western Railroad built from Scranton to Great Bend.

1852—Central Railroad of New Jersey opened from Elizabeth to Easton. Third rail from Hampton Junction laid 1856.

1852—Delaware, Lackawanna and Western Railroad began breaking coal into sizes for market, followed by Delaware and Hudson Company.

1854—Lehigh Valley Railroad building.

1855—Lehigh Valley Railroad Company began transporting coal to Phillipsburg. Opened to Perth Amboy in 1875.

1856—Treverton Railroad opened.

1856—Delaware, Lackawanna and Western Railroad completed to Delaware Water Gap.

1857—Belvidere Delaware Railroad began transporting coal.

1857—North Pennsylvania Railroad opened. Leased to Philadelphia and Reading Railroad Company, May 1, 1879.

1858—Lackawanna and Bloomsburg Railroad opened; leased to Delaware Lackawanna and Western Railroad Company, 1873.

1858—Mining began in McAuley mountain region.

1860—Total shipments this year, exclusive of local consumption, 8,513,123 tons.

1864—Stove coal sold at auction in July for $12.03 per ton.

1866—Lehigh and Susquehanna Railroad opened to Scranton.

1867—Lehigh Valley Railroad opened to Pittston Junction.

1867—Pea coal first appears, returned separately on the railroad toll reports of the Girard Estate collieries in April, this year.

1868—Lehigh and Susquehanna Railroad opened to Phillipsburg. Leased to Central Railroad of New Jersey, 1871.

1868—Pennsylvania Railroad began carrying coal.

1869—Pennsylvania and New York Railroad (Lehigh Valley) opened to Waverly. Strike at mines January to May.

1869—Wilkes-Barre Coal and Iron Company began business.

1869—Pea coal first recognized in Girard Estates leases, and described as coal which would pass through five-eighths of an inch screen mesh.

1870—Nesquehoning Valley Railroad and Panther Creek tunnel opened.

1870—Sunbury, Hazleton and Wilkes-Barre Railroad opened. Leased by Pennsylvania Railroad, 1878.

1870—Total annual shipments 16,182,191 tons.

1871—Erie Railroad Company began mining and shipping coal.

1872—Lehigh Valley Railroad leased the Morris canal.

1873—Philadelphia and Reading Coal and Iron Company began mining and shipping coal.

1873—Miners strike January to July.

1874—Wilkes-Barre Coal and Iron Company merged into Lehigh and Wilkes-Barre Coal Company.

1875—During recent years vast areas of coal lands purchased for Philadelphia and Reading Coal and Iron Company.

1876—During past few years the large companies secured control of trade by purchasing collieries, etc. In February Anthracite Board of Control formed to regulate trade.

1877—Railroad strike and riots two months.

1878—Sunbury, Hazleton and Wilkes-Barre leased by Pennsylvania Railroad.

1878—Buckwheat coal first appears, returned separately on the railroad toll reports of the Girard Estate collieries, in August, this year.

1879—Philadelphia and Reading Railroad Company leased Delaware and Bound Brook Railroad May 1.

1879—Stove coal sold at auction in September for $2.36 per ton at tidewater.

1879—Lehigh and Wilkes-Barre and Lehigh Coal and Navigation Company controlled by Central Railroad of New Jersey.

1880—Annual shipments 23,437,242 tons.

1882—North and West Branch Railroad opened November 23.

1883—First Reading-Jersey Central lease.

1884—Erie and Wyoming Valley Railroad built by Pennsylvania Coal Company and North and West branch Pennsylvania Railroad extended to Wilkes-Barre.

1885—Pennsylvania Coal Company's gravity road to Hawley abandoned.

1886—Jersey Central arranged to resume independence on January 1, 1887.

1887—Important development of lake and western trade.

1887—Miners' strike January to May.

1888—A banner year, high prices and large tonnage. Fred A. Potts died.

1889—Poughkeepsie bridge route opened. E. B. Gowen died.

1890—New York, Ontario and Western line to Seranton opened.

1890—Annual shipments, 35,855,173 tons.

1891—Coxe Bros. road (D. S. & S.) began operations.

1892—Reading deal organized by A. A. MeLeod.

1893—Port Reading began business and MeLeod eombination broken.

1893—Report of Pennsylvania Coal Waste Commission published.

1894—New York, Susquehanna and Western line to Wilkes-Barre opened.

1895—Last formal meeting of the "Sales Agents" held.

1895—Riee eoal first shipped from eollieries of Girard Estate.

1895-1896—Independent operators feeling aggrieved at arbitrary treatment by transportation eompanies hold meetings to diseuss plans for mutual proteetion. Results in organization of Anthraeite Coal Operators' Assoeiation.

1896—Shipments of small eoal recovered by sereening and washing the eulm of waste piles began about this time.

1896—Last meeting of presidents held January 23, and percentages adopted.

1897—E. P. Wilbur resigned presidency of the Lehigh Valley.

1898—New York, Susquehanna and Western leased to Erie. D. & H. eanal abandoned.

1899—Change in Laekawanna: Samuel Sloan, president, sueeeeded by W. H. Truesdale.

1899—Simpson & Watkins sold to Temple Iron Company.

1900—Absorption by the Erie of the Pennsylvania Coal Company interests, both coal and railroad. Anthraeite Coal Operators' Association ceased to hold monthly meeting in New York as formerly.

1900—Annual shipments, 45,500,000 tons. Miners' strike this year.

1901—The feature this year was the establishment of a recognized scale of selling prices.

1902—The long strike from May 12 to Oetober 24. Settled through agency of Coal Strike Commission appointed by President Roosevelt.

1902—Conciliation Board recommended by above eommission organized.

1903—Reeord output; shipments approaehing 60,000,000 tons.

1904—Control of the N. Y., O. & W. Railway goes to N. Y.. N. H. & H. R. R. Co.

1905—Lehigh Valley Railroad buys out Coxe Bros. & Co. Reeord produetion, 78,647,020 short tons.

1906—Six weeks' suspension. Change in management of L. C. & N. Co. W. A. Lathrop made president.

1907—Annual shipments about 66,000,000 tons.

1908—The anthracite coal trade began one hundred years ago, based upon proof by Judge Jesse Fell, at Wilkes-Barre, in 1808, that the coal would burn in a grate without artificial draught and thereby established its value as a domestic fuel. Upon this foundation trade was immediately established by shipments from the Wyoming Valley via Susquehanna River. From that time the trade has been regular and continuous, without intermission for a century, as shown in the above chronology.

Total production for the century in the Lackawanna and Wyoming valleys, 901,000,000 tons; total from State, 1,739,000,000.

DIRECTORY OF ANTHRACITE COAL PRODUCERS, 1911.

The following list of producers of anthracite coal is arranged according to counties. *a*

CARBON COUNTY.

OPERATOR.	P. O. ADDRESS.
Beaver Creek Coal Co.,	1405 Land Title Bldg., Philadelphia
Coxe Bros. Co.,	Wilkes-Barre.
Evans Colliery Co.,	Hazleton.
Hacklebernie Coal Co.,	Mauch Chunk.
Lehigh Coal and Navigation Co.,	Lansford.
Lehigh Valley Coal Co.,	Wilkes-Barre.
Meyer, Moses,	Summit Hill.
Van Wickle, A. S., Estate, Frank N. Day, Sec.,	Hazleton.

COLUMBIA COUNTY.

Bloomsburg Heating Co.,	Bloomsburg.
Custer, C. E.,	Almedia.
Forney Bros.,	Danville.
Hoffman, Reese,	Almedia.
Hoffman & Hoffman,	Bloomsburg.
Lehigh Valley Coal Co.,	Wilkes-Barre.
Midvalley Coal Co.,	1725-27 Land Title Bldg., Philadelphia.
Philadelphia and Reading Coal and Iron Co.,	Philadelphia.
Worman, S. K.,	Espey.

DAUPHIN COUNTY.

Douncy, F. H.,	1298 S. Cameron St., Harrisburg.
Flanagan Bros.,	Harrisburg.
Harrisburg Light, Heat and Power Co.,	Harrisburg.
Harrisburg River Coal, Sand and Stone Co.,	405 Market St., Harrisburg.
Hipple, J. D.,	Wormleysburg.
Huff, Almer,	Highspire.
Leffler, E. H.,	Millersburg.
Leig, W. S.,	279 Main St., Steelton.
Lukens, H. V.,	Duncannon.
Ross, Mrs. Ella Miller,	New Cumberland.
Santo & Pease,	905 S. Front St., Harrisburg.
Summit Branch Mining Co.,	Arcade Bldg., Philadelphia.
Stroh Bros. & Filling,	1335 N. 6th St., Harrisburg.
Zeigler, John G.,	Duncannon.

a It is recognized that the lists of mineral producers are far from being perfect and if any additions or corrections in the same sent to the State Geologist, Beaver, will be greatly appreciated.

LACKAWANNA COUNTY.

OPERATOR.	P. O. ADDRESS.
Archbald Coal Co.,	Binghampton, N. Y.
Bradley Coal Co.,	Peckville.
Brookside Coal Co.,	Scranton.
Bulls Head Coal Co.,	Scranton.
Carbondale Coal Mining Co.,	Carbondale.
Carney & Brown Coal Co.,	Scranton.
Central City Coal Co.,	Scranton.
Clearview Coal Co.,	Scranton.
Collins, Henry W.,	33 S. Main St., Carbondale.
M. A. Depuy Coal Co.,	Dunmore.
Delaware, Lackawanna and Western R. R.,	Scranton.
Dolph Coal Co., Ltd.,	P. O. Box. 507, Scranton.
East Mountain Coal Co.,	37 Garfield Ave., Carbondale.
Fern Coal Co.,	Taylor.
Green Ridge Coal Co.,	Connell Bldg., Scranton.
Hillside Coal and Iron Co.,	50 Church St., New York.
Hudson Coal Co.,	Scranton.
Humbert Coal Co.,	Jessup.
Jermyn & Co.,	Rendham.
Lehigh Valley Coal Co.,	Wilkes-Barre.
Marion Coal Co.,	Republic Bldg., Scranton.
Elliot, McClure and Co.,	Rendham.
Minooka Coal Co.,	213 Pittston Ave., Scranton.
Moosic Coal Co.,	Mears Bldg., Scranton.
Morse Hill Coal Co.,	Carbondale.
Mott Haven Coal Co.,	Bennett Bldg., Wilkes-Barre.
Mt. Jessup Coal Co., Ltd.,	Peckville.
Mt. Moosic Coal Co.,	Marshwood.
Murrin Est., John,	Carbondale.
Nay Aug Coal Co.,	Scranton.
North East Coal Co.,	Scranton.
North End Coal Co.,	Scranton.
Olyphant Coal Co.,	Olyphant.
Outlook Coal Co.,	Connell Bldg., Scranton.
Penn Coal Co.,	50 Church St., New York.
Peoples Coal Co.,	Scranton.
Price-Pancoast Coal Co.,	17 Battery Place, New York, N. Y.
Salem Hill Coal Co., C. S. Woodruff,	Republic Bldg., Scranton.
Scranton Coal Co.,	Scranton.
Scranton Electric Co.,	Scranton.
Spencer, A. D. & F. M.,	Dunmore.
Spring Hill Coal Co.,	Carbondale.

OPERATOR.	P. O. ADDRESS.
Stone, H. J., Coal Co.,	Childs.
Temple Iron Co.,	Scranton.
Wachua, T. H.,	Chestnut & Hill, Mayfield.
Walker Coal Co.,	250 Brooklyn St., Carbondale.
West Mountain Coal Co.,	Jermyn.
Wilson & Protheroe Coal Co.,	Dunmore.

LUZERNE COUNTY.

Alden Coal Co.,	Alden Station.
Bright Coal Co.,	Plymouth.
Clear Spring Coal Co.,	Pittston.
Coxe Bros. & Co.,	Wilkes-Barre.
Delaware, Lackawanna & Western R. R.,	Scranton.
Dodson, Chas. M. & Co.,	Beaver Brook.
Dunn Coal Co.,	Larksville.
East Boston Coal Co.,	Kingston.
Harleigh-Brookwood Coal Co.,	Harleigh.
Harwood Coal Co.,	Hazleton.
Hazel Mt. Colliery Co.,	314 Penn Bldg., Philadelphia.
Hillside Coal and Iron Co.,	50 Church St., New York.
Hudson Coal Co.,	Scranton.
The Kingston Coal Co.,	Wilkes-Barre.
Kemmerer, M. S. & Co.,	Sandy Run.
Lee, George F., Coal Co.,	Coal Exchange, Wilkes-Barre.
Lehigh and Wilkes-Barre Coal Co.,	Philadelphia.
Lehigh Valley Coal Co.,	Wilkes-Barre.
Markle, G. B. & Co.,	Jeddo.
McCauley Coal Co.,	Pittston.
Miners Mills Coal Mining Co., M. J. Healey,	Plains.
North American Coal Co.,	Wilkes-Barre.
Pardee Bros. Co.,	Latimer Mines.
Pardee A. & Co.,	Hazleton.
Parrish Coal Co.,	Plymouth.
Penn Coal Co.,	50 Church St., New York.
Pittston Coal Mining Co.,	Pittston.
Plymouth Coal Co.,	Wilkes-Barre.
Pond Creek Coal Co.,	Harleigh.
Raub Coal Co.,	Luzerne.
Red Ash Coal Co.,	210 Coal Exchange Bldg., Wilkes-Barre.
Reese, Thomas R.,	Audenried.
Stark, Jos. M.,	Hudson.
Stauffer & Rowe,	Hazleton.
Susquehanna Coal Co.,	Arcade Bldg., Philadelphia.

OPERATOR.	P. O. ADDRESS.
Temple Iron Co.,	Scranton.
Traders Coal Co.,	132 Washington Ave., Scranton.
Upper Lehigh Coal Co.,	1727 Land Title Bldg., Philadelphia.
Ward Coal Co.,	Box 415, Avoca.
Wentz, J. S. & Co.,	1727 Land Title Bldg., Philadelphia.
West End & Melville Coal Co.,	Scranton.
West Nanticoke Coal Co.,	Wilkes-Barre.
Wilkes-Barre Anthracite Coal Co.,	Minersville.
Yost Mining Co.,	Miller Bldg., Scranton.

NORTHUMBERLAND COUNTY.

Batdorf, M. L.,	Dalmatia.
Baylor, P. G.,	Riverside.
Boust, Chas.,	Northumberland.
Buck Ridge Coal Co.,	West End Trust Bldg., Philadelphia.
Colonial Collieries Co.,	North American Bldg., Philadelphia.
Coryell & Hartman,	Shamokin.
Enterprise Coal Co.,	Connell Bldg., Scranton.
Excelsior Coal Co.,	Excelsior.
Greenough Red Ash Coal Co.,	Shamokin.
Hemtzelman & Dreibelbin,	Dalmatia.
Lehigh Valley Coal Co.,	Wilkes-Barre.
Mineral R. R. & Mining Co.,	Shamokin (Arcade Bldg.), Phila.
Philadelphia and Reading Coal and Iron Co.,	Philadelphia.
Shaeffer & Moore,	144 N. Front St., Sunbury.
Shipman Coal Co.,	Shamokin.
Snyder, J. W.,	Shamokin.
Steffins, Francis,	Riverside.
Tressler, C. C.,	Trevorton.
Trevorton Colliery Co.,	Cleveland, Ohio.
Wendt & Hollenstein,	Shamokin.
Zeigler, N. A.,	Dornsife.

SCHUYLKILL COUNTY.

Alliance Coal Mining Co.,	437 Chestnut St., Philadelphia.
Bedlow & McCready,	Minersville.
Brighton Coal Co.,	Gilberton.
Buck Run Coal Co.,	Minersville.
Butcher Creek Coal Co.,	St. Clair.
Cambridge Coal Co.,	Shenandoah.
Cooke, Wm. M. Estate,	Tuscarora.
Coxe Bros. & Co.,	Wilkes-Barre.

OPERATOR.	P. O. ADDRESS.
Davis, John H.,	St. Clair.
Darkwater Coal Co.,	Minersville.
Dodson Coal Co.,	Bethlehem.
Dreshem Coal Co.,	Ashland.
Drifted Coal Co.,	Shoemakersville.
Dodson, Freeman M. Coal Co.,	Bethlehem.
Furnace Coal Co.,	Frackville.
Girard Mammoth Coal Co.,	Raven Run.
Gordon & Campian,	Tuscarora.
Harleigh Brookwood Coal Co.,	Mahony Plain.
Knapp & Mensh,	Auburn.
Lehigh Coal & Navigation Co.,	Lansford.
Lehigh Valley Coal Co.,	Wilkes-Barre.
Lehigh & Wilkes-Barre Coal Co.,	Reading Terminal, Philadelphia.
Lentz & Co.,	Park Place.
Lytle Coal Co.,	Minersville.
Maryd Coal Co.,	1725-27 Land Title Bldg., Philadelphia.
Mengel, Uriah,	Auburn.
Mill Creek Coal Co.,	Maueh Chunk.
Mt. Hope Coal Co.,	St. Claire.
MeTurk, W. R., Coal Co.,	314 Penn. Bldg., Philadelphia.
Niswenter, Wm.,	Shenandoah.
Nolan Coal Co.,	500 Colonial Trust Bldg., Reading.
Oak Hill Coal Co.,	Duncott.
Oxford Coal Shaft,	North American Bldg., Philadelphia.
Philadelphia and Reading Coal and Iron Co.,	Philadelphia.
Phillips Bros.,	Middleport.
Pine Hill Coal Co.,	Scranton.
Port Carbon Coal Co.,	Port Carbon.
Sehmellzer, Nieholas,	St. Clair.
Schraer, Wm.,	Orwigsburg.
Schuylkill Coal Co.,	Brockton.
Seott, Mrs. W. W.,	Minersville.
Seltzer & Oswald,	Auburn.
Shepp, Failey & Shindell,	Tamaqua.
Shoener, Samuel,	Landingville.
Smith, H. S. & Co.,	1009 West End Trust Co., Philadelphia.
St. Clair Coal Co.,	131 Wyoming Ave., Scranton.
Susquehanna Coal Co.,	Arcade Bldg., Philadelphia.
Thomas Colliery Co.,	Shenandoah.
White & Co.,	Pottsville.
Zieber, Morgan,	Landingville.

SNYDER COUNTY.

OPERATOR.	P. O. ADDRESS.
Hedrick, Thos.,	Northumberland.
Houseworth & Markley,	Port Trevorton.
Hummel, F. O.,	Port Trevorton.
Whitmore & Schwank,	Port Trevorton.
Witmer, Ed., & Co.,	Port Trevorton.

SULLIVAN COUNTY.

Connell Anthracite Mining Co.,	Scranton.
O'Boyle-Foy Anthracite Coal Co.,	Pittston.
Northern Anthracite Coal Co.,	Lopez.
Randall & Schadd Bros.,	Mildred.

SUSQUEHANNA COUNTY.

Clinton Falls Coal Co., Inc., Murphy, Peter,	Forest City.
Hillside Coal and Iron Co.,	50 Church St., New York.
Still Water Coal Co.,	Forest City.

BITUMINOUS COAL.

BITUMINOUS COAL.

The production of bituminous coal in the State decreased from the maximum output of 150,521,526 tons in 1910, to 144,754,163 tons in 1911, the difference being 5,768,363 tons or 3.83 per cent. The value decreased from $153,029,510 to $146,347,858, a difference of $6,681,652 or 4.37 per cent. The decrease was almost entirely in that portion of the output used for coke, where the decrease in consumption was almost 5,000,000 tons. All the important counties, except Westmoreland, showed a decrease in production and in Westmoreland County there was a decrease in coal used for coke, but an increase in coal used for other purposes. While there was a decrease in the output of coal in Washington and Allegheny counties of over 2,000,000 tons from the output of 1910, this decrease was only about one-third of the increased output of these counties for 1910, when the production was greatly stimulated by the shortage of coal caused by the strike in the Middle West.

The largest decrease was in Fayette County, where there was a falling off of 4,294,163 tons, of which more than 73 per cent. was in the amount of coal made into coke.

The average price of bituminous coal decreased from $1.02 in 1910, to $1.01 in 1911, the same as the price in 1908, and 7 cents higher than the average price of 1909. Except as the depression in the iron trade affected the production of coke the general condition of the coal trade in the State was satisfactory.

Less than 1 per cent. the total production of coal in Pennsylvania in 1911 was washed, the total being 1,346, 982 tons washed, at a loss of 120,656 tons of refuse.

The following table gives the production of coal in the several counties of the state in the year 1911.

PRODUCTION OF BITUMINOUS COAL IN 1911.

Counties.	Loaded at mines for shipment.	Sold to local trade and used by employees.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employees.
Allegheny,	17,001,945	535,160	313,677	3,013	17,863,795	$18,897,024	$1.06	223	22,504
Armstrong,	3,544,645	128,236	125,635	711	3,799,227	3,625,900	.95	240	4,988
Beaver,	137,400	63,446	2,710	----------	203,556	246,515	1.21	265	357
Bedford,	401,165	7,968	13,230	c	528,170	546,573	1.03	218	972
Blair,	92,594	167,606	b	c	294,048	336,451	1.14	179	467
Butler,	913,669	24,799	18,606	----------	957,074	1,006,195	1.05	240	1,342
Cambria,	14,348,596	959,172	367,299	1,253,561	16,928,628	17,499,255	1.03	238	21,900
Center,	1,116,704	20,848	2,711	----------	1,140,263	1,060,519	.93	223	1,712
Clarion,	1,023,959	7,496	25,935	----------	1,057,390	1,022,323	.97	233	1,816
Clearfield,	7,074,270	231,132	211,847	c	7,852,426	7,464,258	.95	221	11,585
Elk,	1,097,515	64,952	20,978	c	1,223,856	1,183,395	.97	235	2,013
Fayette,	6,423,155	259,869	503,521	9,616,523	26,803,068	26,886,299	1.00	245	22,456
Huntingdon,	788,619	5,682	11,898	----------	806,199	976,958	1.21	244	1,158
Indiana,	8,186,918	48,843	205,585	339,637	8,780,983	8,303,008	.95	247	10,934
Jefferson,	4,382,608	53,927	113,069	1,001,212	5,550,816	5,225,641	.94	245	5,397
Mercer,	767,103	46,339	45,913	----------	859,355	1,015,683	1.18	245	1,333
Somerset,	8,847,001	123,603	206,015	c	9,177,421	9,376,554	1.02	248	9,573
Tioga,	785,187	34,937	10,206	----------	830,330	1,310,187	1.58	162	1,931
Washington,	14,069,442	106,393	369,686	798,251	15,343,772	16,155,763	1.05	214	20,433
Westmoreland,	15,601,722	528,190	674,913	7,297,370	24,102,195	23,437,522	.97	241	24,555
Small Mines (a),	441,253	195,062	22,062	529,259	651,591	771,835	1.19	149	107
State Total,	107,055,470	3,613,660	3,265,496	30,819,537	144,754,163	$146,347,858	1.01	233	168,274

a Includes Bradford, Cameron, Greene, Lycoming, McKean, Clinton and Lawrence Counties.
b Included in small mines.
c Included in small mines.

The following tables show in detail the output of coal in each of the several bituminous coal producing counties of the state for the years of 1903 to 1911. In all cases where there are less than three producers selling or using coal for a particular purpose the figures of the production are combined with other items as stated in each of the several tables.

PRODUCTION OF BITUMINOUS COAL, 1903-1911.

ALLEGHENY COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employees.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903, ----	12,085,309	420,858	183,058	----------	12,689,225	$15,505,866	1.22	226	17,108
1904, ----	11,772,459	340,966	177,836	----------	12,291,261	12,569,768	1.02	197	19,302
1905, ----	13,126,235	334,821	201,554	----------	13,662,610	13,064,340	.96	195	18,921
1906, ----	16,193,981	389,151	242,895	----------	16,823,027	17,288,960	1.03	236	19,754
1907, ----	17,686,649	336,922	292,165	----------	18,315,736	20,110,460	1.10	250	21,085
1908, ----	13,551,805	302,056	229,982	----------	14,083,843	14,843,665	1.05	189	22,384
1909, ----	15,270,642	527,809	288,559	----------	16,087,010	16,122,538	1.00	------	----------
1910, ----	17,788,864	745,430	299,566	1,476	18,835,336	20,359,650	1.08	228	23 877
1911, ----	17,011,945	a538,173	313,677	----------	17,863,795	18,897,024	1.06	223	22,504

a Includes coal made into coke.

ARMSTRONG COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employees.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903, ----	1,849,074	31,371	40,139	----------	1,920,584	$2,152,510	1.12	233	3,105
1904, ----	1,921,759	37,374	43,693	----------	2,004,161	1,936,247	.97	223	3,167
1905, ----	2,372,907	58,684	58,879	6,844	2,497,314	2,344,630	.94	244	3,586
1906, ----	2,433,082	51,182	81,900	8,594	2,574,758	2,488,887	.97	230	3,891
1907, ----	3,230,135	75,925	114,018	9,924	3,430,002	3,428,258	1.00	246	5,125
1908, ----	2,611,071	80,149	86,266	----------	2,777,486	2,736,542	.99	188	4,552
1909, ----	2,588,538	115,752	83,218	----------	2,787,508	2 639,543	.95	------	----------
1910, ----	3,062,669	136,712	105,534	----------	3,304,915	3,111,518	.94	259	4,370
1911, ----	3,544,645	a128,947	125,635	----------	3,799,227	3,625,900	.95	240	4,988

a Includes coal made into coke.

PRODUCTION OF BITUMINOUS COAL, 1903-1911.—Continued.

BEAVER COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employees.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	165,954	12,808	1,340	----------	180,102	$262,140	1.46	239	477
1904,	48,708	18,605	610	----------	67,923	83,098	1.22	233	215
1905,	55,842	26,092	742	----------	82,676	92,041	1.11	207	155
1906,	48,415	31,525	1,591	----------	81,531	110,091	1.35	214	180
1907,	71,200	37,025	1,350	----------	109,575	140,613	1.28	246	185
1908,	142,605	77,682	2,424	----------	222,711	261,537	1.17	211	309
1909,	173,322	49,538	1,590	----------	224,450	271,585	1.21	----------	----------
1910,	183,253	42,290	2,674	----------	228,226	279,483	1.22	283	388
1911,	137,400	63,446	2,710	----------	203,556	246,515	1.21	265	357

BEDFORD COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employees.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	762,808	6,505	8,611	148,410	926,334	$1,216,393	1.31	221	1,656
1904,	412,861	6,892	5,666	115,431	540,850	545,644	1.01	150	1,210
1905,	521,484	6,333	11,087	213,811	752,715	764,573	1.02	203	1,302
1906,	361,866	7,249	10,129	155,611	734,855	744,011	1.01	175	1,515
1907,	321,242	9,718	11,974	224,379	967,313	999,828	1.03	236	1,439
1908,	312,023	5,050	9,559	84,382	511,014	519,219	1.02	146	1,099
1909,	301,572	12,165	8,973	112,419	435,129	454,295	1.04	----------	----------
1910,	500,231	8,683	10,813	197,109	716,833	753,168	1.05	194	1,162
1911,	a506,972	7,908	13,230	----------	528,170	546,573	1.03	218	972

a Includes coal made into coke.

PRODUCTION OF BITUMINOUS COAL, 1903-1911.—Continued.

BLAIR COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	164,628	5,639	7,638	131,831	309,736	$459,582	1.48	196	538
1904,	211,159	2,695	2,082	28,996	244,932	271,020	1.11	179	560
1905,	274,534	1,813	4,484	67,918	348,749	384,997	1.10	245	559
1906,	134,540	184,735	4,544	78,619	402,438	451,692	1.12	244	624
1907,	393,011	2,273	6,801	91,134	493,219	508,856	1.03	285	693
1908,	258,249	2,621	5,957	48,340	315,167	337,871	1.07	180	554
1909,	329,680	664	7,395	72,422	410,161	438,698	1.07	----	----
1910,	318,441	1,049	7,533	53,847	380,870	422,625	1.11	245	637
1911,	a123,442	167,600	----	----	294,048	336,451	1.14	179	467

a Includes coal used for coke and steam and heat at mines.

BUTLER COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	599,152	35,880	14,001	----	649,033	$816,878	1.26	212	1,293
1904,	460,318	23,855	13,143	----	497,316	515,374	1.04	161	1,235
1905,	527,373	16,064	7,152	----	550,589	531,244	.96	205	1,094
1906,	784,939	7,101	11,459	----	803,499	805,698	1.00	220	1,326
1907,	878,710	11,402	12,557	----	902,729	958,051	1.06	256	1,380
1908,	772,343	13,838	16,281	----	802,462	808,205	1.01	207	1,339
1909,	791,335	16,380	20,328	----	828,043	846,395	1.02	----	----
1910,	983,098	12,503	22,208	----	1,017,809	1,087,905	1.05	236	1,467
1911,	913,669	24,799	18,606	----	957,074	1,006,195	1.05	240	1,342

PRODUCTION OF BITUMINOUS COAL, 1903-1911.—Continued.

CAMBRIA COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903, ----	9,553,107	233,326	209,880	946,183	10,942,496	$13,693,752	1.25	228	16,392
1904, ----	9,571,748	249,605	201,512	822,695	10,845,560	11,242,889	1.04	211	18,247
1905, ----	10,059,353	1,010,812	238,152	1,292,574	12,600,891	13,053,476	1.04	227	18,496
1906, ----	10,758,269	227,938	247,454	1,205,491	12,439,152	13,334,190	1.07	203	19,902
1907, ----	14,403,319	277,526	325,452	1,520,324	12,526,621	17,393,367	1.05	260	20,964
1908, ----	12,354,638	209,275	320,313	1,254,082	14,138,308	14,792,377	1.05	213	32,804
1909, ----	13,240,128	366,051	331,205	1,607,801	15,545,185	16,399,502	1.05	----	----
1910, ----	14,481,395	427,320	325,876	1,394,870	16,629,461	17,566,903	1.06	240	23,501
1911, ----	14,348,596	954,172	367,299	1,253,561	16,928,628	17,499,255	1.03	238	21,900

CENTRE COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903, ----	692,658	47,692	1,355	17,753	759,458	$781,129	1.03	155	1,313
1904, ----	706,980	3,660	1,396	----------	712,036	699,236	.98	136	1,401
1905, ----	805,520	2,526	2,395	----------	810,441	734,928	.91	178	1,446
1906, ----	884,115	8,468	1,849	1,002	895,434	842,076	.94	145	1,766
1907, ----	1,239,450	6,116	3,830	6,987	1,256,383	1,151,866	.92	226	1,738
1908, ----	1,058,824	24,562	2,998	----------	1,086,384	1,021,227	.94	187	1,757
1909, ----	1,207,489	30,586	974	----------	1,239,049	1,188,764	.96	----	----
1910, ----	1,266,130	25,688	1,804	----------	1,293,622	1,244,732	.96	235	1,829
1911, ----	1,116,704	20,848	2,711	----------	1,140,263	1,060,519	.93	223	1,712

PRODUCTION OF BITUMINOUS COAL, 1903-1911.—Continued.

CLARION COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	519,451	3,586	8,593	----------	531,630	$624,679	1.19	223	1,275
1904,	520,938	12,903	17,691	----------	551,532	529,611	.96	170	1,339
1905,	690,365	4,948	19,165	----------	714,478	657,359	.92	181	1,564
1906,	679,980	21,969	17,599	----------	719,548	697,866	.97	159	1,569
1907,	1,040,176	11,051	27,140	----------	1,078,367	1,100,433	1.02	224	1,913
1908,	937,310	10,845	24,630	----------	972,785	967,940	1.00	190	1,882
1909,	915,514	3,185	22,360	----------	941,059	924,568	.98	----------	----------
1910,	1,121,209	8,230	27,258	----------	1,156,697	1,126,569	.97	226	1,713
1911,	1,023,959	7,496	25,935	----------	1,057,390	1,022,323	.97	233	1,816

CLEARFIELD COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	6,982,386	87,509	100,949	291,838	7,462,682	$8,233,181	1.10	234	10,883
1904,	5,516,586	89,735	109,616	30,933	5,746,870	5,518,757	.96	187	10,992
1905,	6,808,679	74,299	139,836	225,491	7,248,305	6,596,374	.91	206	11,703
1906,	5,484 154	69,582	138,595	252,414	5,944,745	5,746,030	.97	170	11,556
1907,	7,393,066	117,242	166,680	357,723	8,034,711	7,887,283	.98	229	10,890
1908,	5,783 688	79,552	164,355	219.939	6,247,534	6,049,552	.97	171	11,376
1909,	6,817,013	215,329	178,826	362,154	7,573,322	7,192,429	.95	----------	----------
1910,	7,641,725	244,972	204,301	372,912	8,463 910	8,048,056	.94	230	11,521
1911,	a 7,409,447	231,132	211,847	b	7,852,426	7,464,258	.95	221	11,685

a Includes coal made into coke.
b Included in loaded for shipment.

PRODUCTION OF BITUMINOUS COAL, 1903-1911.—Continued.

ELK COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903, ----	1,215,950	34,513	25,325	63,463	1,339,281	$1 447,413	$1.08	246	2,330
1904, ----	1,016,915	32,562	24,253	55,501	1,129,231	1,003,098	.89	176	1,920
1905, ----	1,130,259	16,879	24,871	77,328	1,249,337	1,172,626	.94	223	2,126
1906, ----	864,581	5,194	17,258	57,334	944,367	944,682	1.00	161	2,119
1907, ----	1,312,169	34,570	23,293	58,009	1,427,841	1,442,096	1.01	251	2,003
1908, ----	1,050,095	32,168	22,029	42,917	1,147,209	1,265,208	1.17	201	2,056
1909, ----	1,077,291	20,415	18,811	34,158	1,150,675	1,086,782	.94	----	----
1910, ----	1,109,056	28,683	23,254	41,330	1,202,323	1,186,650	.99	239	2,017
1911, ----	a 1,137,926	64,952	20,978	b	1,223,856	1,183,395	.97	235	2,013

a Includes coal made into coke.
b Included in coal loaded at mine for shipment.

FAYETTE COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903, ----	7,211,202	188,704	444,752	11,768,503	19,613,161	$22,175,840	$1.13	252	17,244
1904, ----	5,980,308	270,404	427,519	12,552,780	19,231,011	16,585,466	.86	241	16,830
1905 ----	7,393,435	279,640	465,227	16,112,087	24,250,989	22,983,215	.95	267	19,629
1906, ----	7,638,901	277,991	519 098	18,608,461	27,044,451	27,141,727	1.00	269	21,239
1907, ----	7,243,548	321,578	353,786	21,141,710	29,260,622	30,321,657	1.04	270	22,909
1908, ----	5,798,619	266 951	487,870	12,920,977	19,474,417	19,707,839	1.01	214	19,866
1909, ----	7,066,334	304,920	547,481	20,947,494	28,866,229	24,002,056	.83	----	----
1910, ----	7,479,414	309,082	553,859	22,754,878	31,097,233	31,310,480	1.00	265	24,707
1911, ----	6,423,155	259,869	503,521	19,616,523	26,803,068	26,886,299	1.00	245	22,456

PRODUCTION OF BITUMINOUS COAL, 1903-1911—Continued.

HUNTINGDON COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	479,467	10,709	9,500	1 171	500,647	$687,836	$1.37	225	898
1904,	469,852	8,221	9,150	----------	487,223	520,927	1.07	233	838
1905,	545,126	5,222	8,691	----------	559,039	609,935	1.09	227	894
1906,	613,334	7,044	9,777	----------	630,155	697,543	1.11	252	1,028
1907,	676,327	7,519	11,363	26,395	721,604	798,115	1.11	268	1,081
1908,	528,095	10,724	12,851	46,424	598,094	670,525	1.12	195	1,264
1909,	471,734	5,877	8,449	16,763	502,823	561,555	1.12	----------	----------
1910,	649,953	7,355	11,918	----------	669,220	773,739	1.15	218	1,014
1911,	788,619	5,682	11,898	----------	806 199	976,958	1.21	244	1,158

INDIANA COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	1,739,897	66,285	42,937	194,021	2 043,140	$2,272,477	$1.11	244	3,636
1904,	2,532,433	17,961	60,910	72,647	2,683,951	2,477,886	.92	236	4,468
1905,	4,103,054	17,345	53,949	303,083	4,477,431	3,982,417	.89	254	5,460
1906,	4,317,122	27,957	86,289	226,089	4,657,457	4,292,656	.92	211	7,179
1907,	7,132,241	42,361	150,147	311,240	7,635,998	7,231,684	.95	251	9,744
1908,	6,441,351	28,587	175,120	198,121	6,843,179	6,359,687	.93	200	10,311
1909,	7,376,630	36,452	154,632	122,491	7,681,205	7,026,668	.91	----------	----------
1910,	8,413,684	45,831	199,935	293,916	8,954,366	8,277,938	.92	242	10,696
1911,	8,186,918	48,843	205,585	339,637	8,780,983	8,303,008	.95	247	10,934

PRODUCTION OF BITUMINOUS COAL, 1903-1911—Continued.

JEFFERSON COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	5,109,915	17,527	33,157	1,314,165	6,474,764	$6,688,694	$1.03	263	7,022
1904,	4,710,804	16,685	44,415	1,271,660	6 043,564	5,847,580	.97	250	7,653
1905,	4,974,781	18,939	90,157	1,310,108	6,393,985	5,543,388	.87	243	7,919
1906	3,872,829	17,754	103,014	1,165,598	5,160,195	4,608,049	.89	189	6,795
1907,	4,536,052	28,944	112,966	1,286,435	5,964,397	5,712,576	.96	251	6,894
1908,	3,767,418	33,742	108,257	943,896	4,853,313	4,695,603	.97	170	6,202
1909,	3,885,172	51,023	137,979	860,733	4,934,907	4,129,201	.82	----	----
1910,	4,403,191	76,154	109,708	1,079,758	5,668,883	5,093,000	.90	230	6,391
1911,	4,382,608	50.927	113,069	1,001,212	5,550,816	5,225,641	.94	245	5,397

LAWRENCE COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903	205,895	13,715	13,282	----------	232,992	$322,361	$1.38	227	550
1904,	164,952	12,642	5,068	----------	182,662	228,130	1.25	160	512
1905,	234,614	23,729	9,127	----------	267,470	311,672	1.17	255	470
1906,	221,673	24,510	11,533	----------	257,716	304,882	1.18	237	450
1907,	183,646	22.983	14,089	----------	220,718	294,786	1.34	271	385
1908,	117,808	13,637	11,194	----------	142,639	168,371	1.18	126	355
1909,	140,495	4,552	11,702	----------	156,749	202,911	1.29	----	----
1910,	81,282	5,243	8,577	----------	95,102	115,276	1.21	214	459
1911,a	----------	----------	----------	----------	90,151	109,698	1.22	227	166

a Included in other counties and smaller mines.

PRODUCTION OF BITUMINOUS COAL, 1903-1911—Continued.

MERCER COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903, ----	668,972	8,302	27,573	----------	704,747	$920,566	$1.31	248	1,196
1904, ----	588,482	4,292	26,874	----------	619,648	621,330	1.00	178	1,287
1905, ----	676,022	7,375	24,567	----------	707,964	703,015	.99	209	1,327
1906, ----	805,869	5,289	31,490	----------	842,648	914,019	1.08	222	1,410
1907, ----	909,496	7,918	37,876	----------	955,290	1,041,137	1.09	269	1,487
1908, ----	681,421	4,977	37,760	----------	724,158	763,471	1.05	201	1,408
1909, ----	783,431	68,260	42,189	----------	893,880	999,624	1.10	--------	--------
1910, ----	772,998	53,752	41,004	----------	867,754	1,012,403	1.17	226	1,350
1911, ----	767,103	46,339	45,913	----------	859,355	1,015,683	1.18	245	1,333

SOMERSET COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903, ----	5,743,922	16,935	122,678	74 216	5,937,571	$7,844 318	$1.32	230	8,159
1904, ----	5,148,867	11,709	155,165	1,420	5,317,161	5,597,165	1.05	229	7,411
1905, ----	6,142,397	23,241	165,959	81,075	6,412,672	6,691,403	1.04	240	8,326
1906, ----	6,417,721	32,113	183 050	41,307	6,674,191	7,237,817	1.08	248	8,529
1907, ----	7,407,835	46,676	207,806	107,391	7,769,708	8,579,132	1.10	263	9,835
1908, ----	7,150,123	53,878	198,101	2,843	7,404,945	7,848,656	1.06	236	10,244
1909, ----	7,624 276	64,162	186,541	27,359	7,902,338	8,614,082	1.09	--------	--------
1910, ----	8,499,755	78,891	198,738	60,298	8,837,682	9,181,488	1.04	263	9,836
1911, ----	8,847,001	123,603	a206,817	----------	9,177,421	9,376,554	1.02	248	9,573

a Includes coal made into coke.

PRODUCTION OF BITUMINOUS COAL, 1903-1911—Continued.

TIOGA COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	868,744	29,8[illegible]	7,142		905,688	$1,495,955	$1.65	181	2,281
1904,	582,215	28,997	5,616		616,828	930,711	1.51	151	1,742
1905,	665,869	34,427	6,427		706,723	1,006,239	1.42	175	1,694
1906,	785,849	34,702	6,374		826,925	1,230,072	1.49	176	2,106
1907,	1,096,637	40,925	8,791		1,146,353	1,768,394	1.54	241	2,178
1908,	643,285	31,182	7,632		682,099	1,022,913	1.50	133	2,050
1909,	741,462	36,774	7,686		785,922	1,219,560	1.55		
1910,	987,062	40,309	10,046		1,037,417	1,601,995	1.55	230	2,024
1911,	785,187	34,937	10,206		830,330	1,310,187	1.58	162	1,931

WASHINGTON COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	8,963,741	94,969	156,633	3,934	9,216,267	$10,591,514	$1.15	214	10,855
1904,	8,584,035	100,544	211,064	4,611	8,900,254	8,361,326	.94	186	12,616
1905,	10,259,752	56,577	225,539	67,183	10,609,051	9,612,259	.91	208	12,952
1906,	12,174,577	66,726	284,431	188,871	12,714,405	12,929,442	1.02	243	13,539
1907,	13,741,410	96,840	342,204	355,273	14,535,727	15,612,757	1.07	246	15,033
1908,	11,309,761	96,202	313,387	398,657	12,118,007	12,470,171	1.03	196	17,364
1909,	12,072,069	99,253	317,482	493,375	12,982,179	12,985,584	1.00		
1910,	15,198,042	106,607	411,904	922,124	16,638,677	17,567,634	1.06	228	20,764
1911,	14,069,442	106,393	369,686	798,251	15,343,772	16,155,763	1.05	214	20,433

PRODUCTION OF BITUMINOUS COAL, 1903-1911—Continued.

WESTERMORELAND COUNTY.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	11,801,417	190,856	399,258	6,730,373	19,127,704	$22,627,418	$1.18	253	20,683
1904,	12,160,494	222,148	430,290	5,882,522	18,695,974	17,773,790	.95	125	21,288
1905,	14,227,015	182,826	463,863	8,125,022	22,998,726	21,970,809	.96	258	23,161
1906,	17,771,320	244,390	551,243	9,006,467	27,573,420	26,828,203	.97	278	24,768
1907,	18,341,804	332,461	613,200	9,629,256	28,916,721	28,618,176	.99	266	25,676
1908,	15,555,657	330,457	572,765	5,040,413	21,499,292	20,915,077	.97	214	26,041
1909,	15,565 326	356,760	582,225	8,988,069	25,432,320	22,048,281	.87	----------	----------
1910,	13,263,703	449,844	617,694	8,554,163	22,885,404	22,389,051	.98	229	25,035
1911,	15,601.722	528,190	674,913	7,297,370	24,102,195	23,437,522	.97	241	24,555

OTHER COUNTIES AND SMALL MINES.

Year.	Loaded at mines for shipment.	Sold to local trade and used by employes.	Used at mines for steam and heat.	Made into coke.	Total quantity.	Total value.	Average price per ton.	Average number of days active.	Average number of employes.
1903,	606,602	8,735	5,772	8,447	629,556	$922,257	$1.47	254	981
1904,a	494,076	15,131	5,795	27,837	542,839	685,160	1.06	255	892
1905,a	423,625	34,136	10,563	43,158	511,482	579,567	1.13	223	845
1906,a	459,887	49,319	8,747	30,336	548,289	652,058	1.19	216	854
1907,b	530,628	74,441	7,214	26,000	638,283	727,675	1.20	252	871
1908,c	433,818	93,157	7,506	----------	534,481	590,647	1.11	229	744
1909,d	427,202	172,385	7,061	----------	606,648	730,616	1.20	----------	----------
1910,e	94,852	121,198	6,037	6,720	228,807	250,354	1.09	198	249
1911,f	441,253	195,082	15 276	----------	651.591	771,835	1.19	----------	----------

a Includes Cameron, Clinton, Greene and Lycoming.
b Includes Bradford, Cameron, Clinton, Greene, Lycoming and McKean.
c Includes Bradford, Clinton, Greene and Lycoming.
d Includes Bradford, Cameron, Clinton, Greene and Lycoming.
e Includes Bradford, Cameron, Greene and Lycoming.
f Includes Bradford, Cameron, Greene, Lycoming McKean, Clinton and Lawrence.

DIRECTORY OF BITUMINOUS COAL PRODUCERS, 1911.

The following list of operators in the bituminous coal fields is arranged by counties. It is recognized that the list of mineral producers in the State is far from perfect, and any additions or corrections in the list sent to the State Geologist, Beaver Pa., will be greatly appreciated.

ALLEGHENY COUNTY.

OPERATOR.	P. O. ADDRESS.
Allegheny Coal Co.,	712 Hickox Bldg., Cleveland, O.
Allegheny Coal & Coke Co.,	Leechburg.
Bessemer Coal & Coke Co.,	2212 Oliver Bldg., Pittsburg.
Blaine Colliery Co.,	Fulton Bldg., Pittsburg.
Bowman Bros. Co.,	539 Jerome St., McKeesport.
Butler Junction Coal Co.,	Leechburg.
Cane Coal Co.,	House Bldg., Pittsburg.
Carnegie Coal Co.,	Pittsburg.
Casey, D. C.,	125 Main St., Carnegie.
Cole, Wm. M.,	Carnegie.
Cook, N.,	Gibsonia.
Cornell Coal Co.,	Freeport.
Crescent Coal Co.,	Lewis Block, Pittsburg.
Fayette Coal Co.,	Union National Bldg., Pittsburg.
Ford Collieries Co.,	Curtisville.
Fort Pitt Stone and Brick Co.,	Carnegie.
Fox, Jno. T.,	121 Wabash St., Pittsburg.
Hays, W. S. B., Harry Gillard, Supt.,	Homestead.
Hornel Coal Co.,	Hickman.
Jordon, J. S.,	Imperial, R. D. I.
Kirkbride Coal Co.,	Carnegie.
Kirkpatrick, Jos.,	Turtle Creek.
Kountz Coal and Mining Co.,	Harmarville.
Mansfield Coal and Coke Co.,	Pittsburg.
Mifflin Coal Co.,	Lewis Block, Pittsburg.
Monongahela River Consolidated Coal and Coke Co.,	Pittsburg.
McDermott Bros.,	Carnegie.
McDonald Coal Co.,	McDonald.
McFetridge Bros. Coal Co.,	Creighton.
McKean Coal Co.,	Tarentum.
McKee, E. B.,	McDonald R. D. I.
McClane Coal Co.,	Bridgeville.
National Mining Co.,	Carnegie Bldg., Pittsburg.
New York and Cleveland Gas Coal Co.,	Pittsburg.

OPERATOR.	P. O. ADDRESS.
Nicely, H. B.,	Box 122, Pitcairn.
Ollet Bros.,	Presto.
Pan Handle Mining Co.,	Lewis Block, Pittsburg.
Peckham, Henry L., Jr.,	Greenock.
Pennsylvania Fuel Co.,	Wilkinsburg.
Pennsylvania Salt Manufacturing Co.,	115 Chestnut St., Philadelphia.
Peterman, John H.,	Wilkinsburg, R. F. D. 1.
Pittsburg and Castle Shannon Railroad Co.,	Pittsburg.
Pittsburg Buffalo Co.,	Frick Bldg., Pittsburg.
Pittsburg Coal Co.,	Pittsburg.
Pittsburg Plate Glass Works.,	Frick Bldg., Pittsburg.
Pittsburg Terminal Railroad Coal Co.,	507 Wabash Bldg., Pittsburg.
Quinn, W. J.,	Oakdale, R. D. 1.
Sampson & Hormell,	Wilkinsburg, R. D. 1.
Scott, W. L.,	Erie.
Spear Coal Co.,	1201 Hill Ave., Wilkinsburg.
Steel & Scott, ..	6745 Thomas Bldg., Wilkinsburg
Steen Coal Co.,	Woodville.
Superior Fuel Co.,	Greensburg
Tucker, Jos.,	Monongahela.
United Coal Co.,	Pittsburg.
Vogeles, G., Son & Co., Jacob Weinman, Jr., Superintendent, 918 Swissvale Ave.,	Wilkinsburg.
Vogelley & Gummert,	Tarentum.
Wallace, I. J.,	Pitcairn.
Walter, Jos.,	Crafton.
White Ash Coal Co., S. K. Bowers, Supt.,	Verona, R. D. I.
Witch Hazel Coal Co.,	Youngstown, O.
Weinman Bros.,	Wilkinsburg
Youghiogheny & Ohio Coal Co.,	Cleveland, O.

ARMSTRONG COUNTY.

Aladdin Coal & Coke Co.,	Leechburg.
American Sheet & Tin Plate Co.,	Pittsburg.
Avonmore Coal & Coke Co.,	Leechburg.
Barnett, K.	Kittanning, R. D. 4.
Beale, Jas. G., & Co.,	Leechburg.
Ben Franklin Coal Co.,	Freeport.
Bagdad Coal & Coke Co.,	Leechburg.
Buffalo & Susquehanna Coal & Coke Co.,	Buffalo.
Clark Coal & Coke Co., W. J. McCracken, Trustee, Second National Bank Bldg.,	Pittsburg.

OPERATOR.	P. O. ADDRESS.
Cobaugh Colliery Co.,	Hawthorn.
Cowanshannock Coal and Coke Co.,	Yatesboro.
Dayton Coal Co.,	Punxsutawney.
Fairmont Coal Co.,	308 Elliott Sq., Buffalo, N. Y.
Gilpin Coal Co.,	Leechburg.
Glendale Coal Co.,	Myersdale.
Great Lakes Coal Co.,	Kaylor.
Hadden Coal Co.,	Leechburg.
Hanky, T. H.,	Top.
Keeler, C. E.,	Elderton.
Keystone Mining Co.,	East Brady.
Kittanning Coal & Coke Co.,	Kittanning.
Kittanning Iron & Steel Manufacturing Co.,	Kittanning.
Kittanning Plate Glass Co.,	Kittanning.
Kunkle, B. O.,	Kittanning.
Lewis Coal Mining Co.,	Kittanning.
Logansport Coal Co.,	Pittsburg.
McConnell, T., Jr.,	Kittanning.
Melrose Coal Mining Co.,	Redbank.
Maher Coal & Coke Co.,	Blairsville.
Oak Ridge Mining Co.,	Buffalo, N. Y.
Paul, J. D.,	Templeton.
Pittsburg Buffalo Co.,	Frick Bldg., Pittsburg.
Pittsburg Plate Glass Works,	Frick Bldg., Pittsburg.
Provident Coke & Mining Co.,	Connellsville.
Raridan & East Brady Coal Co.,	726 Frick Bldg., Pittsburg.
Ridenour, J. S.,	Avonmore.
Rimerton Coal & Coke Co.,	Leechburg.
Rochester & Pittsburg Coal and Iron Co.,	Rochester, N. Y.
Smith, A. C.,	New Bethlehem.
Snyder Bros.,	Kittanning.
Stoff, M. F.,	Kittanning.
West Penn Coal Mining Co.,	407 Bullett Bldg., Philadelphia.
Widnoon Coal Mining Co.,	Reynoldsville.

BEAVER COUNTY.

American Sewer Pipe Co.,	Akron, O.
Beeresford Bros.,	Darlington.
Boyd, T. H.,	1920 5th Ave., Beaver Falls.
Brighton Fire Brick Co.,	New Brighton.
Clayton, W. F.,	Beaver Falls.

OPERATOR.	P. O. ADDRESS.
Cottman, M. T.,	Beaver Falls.
Davidson, Addison,	1226 9th Ave., Beaver Falls.
Douglas Whisler Brick Co.,	Beaver Falls.
Evans, Job.,	Beaver Falls.
Francis & Prosser Coal Co.,	Cannelton.
Hoytdale Coal Co.,	New Castle.
Kimberly Stone Co.,	Ellwood City.
Jones, Harry W.,	Beaver Falls.
Marcus, Samuel,	Beaver Falls.
Marcus, Joseph,	806 4th St., Beaver Falls.
McCowin & Son,	Cannelton.
Methany, M. L.,	Ellwood City.
Mountford, Richard,	Beaver Falls.
Murphy, D.,	Beaver Falls.
Rauser, Jos. P.,	Ellwood City.
Smith, The A. F., Co.,	New Brighton.
State Line Coal Co.,	Cleveland, O.
Shaffer & Wilkinson,	R. F. D., No. 4, Beaver Falls.
Stewart, F. E.,	Hookstown.
Tri-State Railway & Electric Co.,	East Liverpool.
Watson Coal Co.,	Beaver Falls.
Wilds, Robert,	R. D., No. 4, Eastvale.

BEDFORD COUNTY.

Carbon Coal & Coke Co.,	85 Devonshire St., Boston, Mass.
Colonial Iron Co.,	Riddlesburg.
Eichelberger, E. & Co.,	Saxton.
Highland Coal Mining Co.,	Real Estate Trust Bldg., Philadelphia.
Huntingdon Coal Co.,	Huntingdon.
Kenmore Coal Co.,	Patton.
Landon, John,	Huntingdon.
Morrisdale Coal Co.,	Real Estate Trust Bldg., Philadelphia.
McIntyre, John.,	Six Mile Run.
McIntyre, Jas. M. & Co.,	Six Mile Run.
Mt. Equity Coal & Coke Co.,	Sunbury.
Rays Hill Coal Mining Co.,	Arcade Bldg., Philadelphia.
Saxton Coal Co.,	Saxton.
Schipper Bros. Coal Mining Co.,	Six Mile Run.
Swartz, Geo. W.,	Langdondale.
Thropp, Joseph E.,	Everett.
Zeth, M. V., & Co.,	Hopewell.

BLAIR COUNTY.

OPERATOR.	P. O. ADDRESS.
Altoona Coal & Coke Co.,	Coupon.
Bennington Coal Co.,	806 4th St., Altoona.
Bradley & Reed,	Gallitzin.
Glen White Coal & Lumber Co., Penn Coal & Glen White Coke Co., T. H. Watkins, Receiver,	17 Battery Place, New York, N. Y.
Sugar Run Coal Mining Co.,	Altoona.
Tunnel Coaling Co.,	Greensburg.

BRADFORD COUNTY.

Haines, John F.,	Moreton.

BUTLER COUNTY.

Besemer & Lake Coal Mining Co.,	Oliver Bldg., Pittsburg.
Butler Brick & Tile Co.,	Butler.
Butler Coal & Coke Co.,	Butler, R. F. D
Butts Cannel Coal Co.,	Cleveland, O.
Cunningham Coal Co.,	Chicora.
Erie Coal & Coke Co.,	Ferris.
Frederick, R. C.,	Chicora, R. F. D. 78.
Fulmer & Kaylor,	Karns City, R. D. 75.
Industrial Coal Co.,	Safe Dep. & Trust Co. Rec., Pittsburgh.
Kerr Coal Co.,	Freeport.
Lake Trade Coal Co.,	Windber.
Lochric Bros.,	Windber.
Maines Coal Co.,	928 Butler St., Butler.
Mizener Coal Co.,	Erie.
Mutual Coal Mining Co.,	Argentine.
Nellie Coal Co.,	Argentine.
Pittsburg Harmony Co.,	Pittsburg.
Rogers Coal Co.,	Claytonia.
Scott, W. L.,	Erie.
Sefton, Oscar L.,	Saxonburg.
Sharon Coal & Limestone Co.,	Carnegie Bldg., Pittsburg.
Sherwin, S.,	Karns City.
Sherwin, P. D.,	Butler.
Stage, Geo. G., & Son,	Greenville.
Standard Coal Mining Co.,	Grove City.
Vincent Cypher,	Cabot.
Wildwood Coal Co.,	Boyers.

CAMBRIA COUNTY.

OPERATOR.	P. O. ADDRESS.
Aetna Coal Mining Co.,	Portage.
Alton Coal Co.,	Altoona.
Altoona Coal & Coke Co.,	Coupon.
Anderson Coal Mining Co.,	Fallen Timber.
Argyle Coal Co.,	Greensburg.
Baker Whitely Coal Co.,	510 Keyser Bldg., Baltimore, Md.
Barnes & Tucker Co.,	Barnesboro.
Bear Rock Coal Co.,	Lilly.
Beaver, D. B.,	Spangler.
Beaver Run Coal Co.,	Beaverdale.
Bellfield Coal & Coke Co.,	Altoona.
Bens Creek Sonman Coal Co.,	Minersville.
Bens Creek Coal Mining Co.,	Altoona.
Berwind White Coal Mining Co.,	Windber.
Big Bend Coal Mining Co.,	Real Estate Trust Bldg., Philadelphia.
Bland, Fred,	Blandburg.
Black Lick Mining Co.,	15th & Market Sts., Philadelphia.
Cady Coal Co.,	Bedford St., Johnstown.
Cambridge Bituminous Coal Co.,	Philadelphia.
Cambridge Coal Co.,	North American Bldg., Philadelphia.
Cambria Steel Co.,	Johnstown.
Cardiff Coal Co.,	Greensburg.
Cherry Tree Coal Co.,	Clearfield.
Cheston Coal Co.,	Hastings.
Citizens Coal Co.,	Johnstown.
Citizens Ice Co.,	303 Somerset St., Johnstown.
Clearfield Bituminous Coal Corporation,	Clearfield.
Colonial Coal Mining Co.,	Philadelphia.
Commercial Coal Mining Co.,	Arcade Bldg., Philadelphia.
Conemaugh Fuel Co.,	Greensburg.
Cover Hamm Coal Co.,	Johnstown.
Cymbria Coal Co.,	1000 Franklin Bank Bldg., Philadelphia.
Davis, John M.,	Johnstown.
Davis, Wm. J.,	Johnstown
Deringer Bros.,	Spangler.
Duncan Spangler Coal Co.,	Spangler.
Eastern Bituminous Coal Mining Co.,	Philadelphia.
Ebensburg Coal Co.,	727 Land Title Bldg., Philadelphia.
Empire Coal Mining Co.,	Clearfield.
Estep Bros. Coal Mining Co.,	Nanty Glo.
Federal Coal Mining Co.,	Puritan.
Ferndale Coal Co.,	Johnstown.

OPERATOR.	P. O. ADDRESS.
Forge Coal Mining Co.,	1000 Franklin Bldg., Philadelphia.
Gillin Bros.,	Mineral Point.
Gould, W. A., & Bro.,	Brisbin.
Good Coal & Clay Co.,	Patton.
Harbison Walker Refractories Co.,	Farmers Bank Bldg., Pittsburg.
Haws, A. J., & Son, Ltd.,	Johnstown.
Harris, Jas., & Sons,	Lilly.
Hastings Coal & Coke Co.,	Cherry Tree.
Highland Coal Co.,	Johnstown.
Henrietta Coal Mining Co.,	Altoona.
Ingleside Coal Co.,	Johnstown.
Johnstown Pressed Brick Co.,	Johnstown.
Kelly & Flanagan,	Altoona.
Kennerly J. Blair,	Penn Square Bldg., Philadelphia.
Killion, Fred,	317 Woodvale Ave., Johnstown.
Kokomo Coal Co.,	Greensburg.
Lake Trade Coal Co.,	Windber.
Leaf Coal Co.,	Cassandra.
Leahey Coal Co.,	Lilly.
Leisenring, M. J.,	Lilly.
Lincoln Coal Co.,	Broadway, N. Y.
Lilly Coal Co.,	Altoona.
Lloydell Coal Mining Co.,	10-12 Broadway.
Llevellyn & Yeagley,	411 Grove Ave., Johnstown.
Logan Coal Co.,	Harrison Bldg., Philadelphia.
Loyal Hanna Coal & Coke Co.,	Land Title Trust Bldg., Philadelphia.
Madera Hill Coal Mining Co.,	Philipsburg.
Maryland Coal Co.,	New York City.
Maryland Coal Mining Co.,	St. Michael.
Miller Run Coal Co.,	Hastings.
Miller Coal Co.,	Philadelphia.
Milsom Coal Co.,	Carrolltown.
Morrisdale Coal Co.,	Philadelphia.
Morrellville Coal Mining Co.,	Bullett Bldg., Philadelphia.
Mountain Coal Co.,	Greensburg.
Munster Coal Co.,	Altoona.
Nanty Glo Coal Mining Co.,	727 Land Title Bldg., Philadelphia.
Oak Ridge Coal & Coke Co.,	Hastings.
Patton Clay Manufacturing Co.,	Patton.
Peale, Rembrant,	New York City.
Pearce, George & Sons,	Puritan.
Peerless Coal Mining Co.,	Elmora.

OPERATOR.	P. O. ADDRESS.
Penker Coal Co.,	Puritan.
Penn Coal & Coke Co.,	17 Battery Place, New York City.
Philips, John,	Alexandria.
Piper, M. K.,	Lilly.
Piper W. K. & Co.,	Real Estate Trust Bldg., Philadelphia.
Plymouth Coal Mining Co.,	Real Estate Trust Bldg., Philadelphia.
Priscilla Coal Mining Co.,	South Fork.
Princess Coal Mining Co.,	North American Bldg., Philadelphia.
Puritan Coal Co.,	Arcade Bldg., Philadelphia.
Red Top Coal Co.,	Hastings.
Rich Hill Coal Co.,	Hastings.
Robertson & Wilson,	Johnstown.
Rockville Coal Co., C. A. Hutzell,	South Fork.
Schmittle, J. E.,	Glasgow.
Shoemaker Coal Mining Co.,	1507 Real Estate Trust Bldg., Philadelphia.
Smith, Robert,	Lilly.
Sonman Shaft Coal Co.,	Minersville.
South Fork Coal Mining Co.,	421 Chestnut St., Philadelphia.
Springfield Coal Mining Co.,	Ebensburg.
Steinman, O. M.,	South Fork.
Sterling Coal Co.,	421 Chestnut St., Philadelphia.
Stoneman Coal Mining Co.,	306 Penn Bldg., Philadelphia.
Stineman, H. C.,	South Fork.
Stineman Coal & Coke Co.,	421 Chestnut St., Philadelphia.
Sunnyside Coal Co.,	Johnstown.
Suppes Coal Co.,	Johnstown.
Styer, Samuel,	Real Estate Trust Bldg., Philadelphia.
Taylor & McCoy Coal & Coke Co.,	210 Union Trust Bldg., Baltimore Md.
Turner Run Mining Co.,	Dysart.
Valley Coal & Stone Co.,	Johnstown.
Valley Smokeless Coal Co.,	Johnstown.
Vinton Colliery Co.,	Vintondale.
Walnut Coal Co.,	Altoona.
Watkins Coal Co.,	Barnesboro.
Wickes, J. H.,	South Fork.
Woodland Coal and Coke Co.,	Spangler.
Yellow Run Coal Mining Co.,	Real Estate Trust Bldg., Philadelphia.

CAMERON COUNTY.

Emporium Iron Co.,	Emporium.
Mount Hope Coal & Coke Co.,	Emporium.

CENTRE COUNTY.

OPERATOR.	P. O. ADDRESS.
Anda Coal Co.,	Houtzdale.
Blair Bros. Coal Co.,	934 Washington Ave., Tyrone.,
Center Coal & Coke Co.,	Osceola Mills.
Center Steam Coal Co.,	Snow Shoe.
Clearfield Coal Mining Co.,	Clearfield.
Davidson, M. H.,	Philipsburg.
Dunham, F. J., & Co.,	Philipsburg.
Frelin Coal Co., Ltd.,	Houtzdale.
Glens Coal Co.,	Osceola Mills.
Harbison Walker Refractories Co.,	Pittsburg.
Hays Run Fire Brick Co.,	Orviston.
Kato Coal Co., Thomas F. Kelly,	Clarence.
Kelley Bros. Coal Co.,	Snow Shoe.
Jason Coal Co.,	Philipsburg.
Lee Coal Co.,	Philipsburg.
Lehigh Valley Coal Co.,	90 West St., New York.
Moshannon Coal Mining Co.,	Osceola Mills.
Milson & Hughes,	Carrolltown.
Mount Vernon Coal Mining Co.,	Philipsburg.
Peale, Rembrant,	Grand Central Terminal, New York.
Peerless Coal Mining Co.,	Clearfield.
Pemberton Coal Co.,	Altoona.
Roadhouse, Wm. H.,	Philipsburg.
Stott, James F.,	Philipsburg.
White Dugan Coal Co.,	Philipsburg.
Whitehead Coal Co., The G. L.,	Philadelphia.

CLARION COUNTY.

Acme Coal Mining Co.,	Greensburg.
Alcola Bituminous Coal Co.,	Summerville.
Baldorf Coal & Coke Co.,	Strattonville.
Baines, Wm.,	Arthurs.
Buckingham Coal Mining Co.,	Clarion.
Carl, E. J.,	Snydersburg.
Chestnut Ridge Coal Mining Co.,	Elliot Square, Buffalo.
Cherry Run Mining Co.,	Pittsburg.
Clarion Coal Mining Co.,	West End Trust Bldg., Philadelphia.
Diamond Coal Mining Co.,	Williamsport.
Eagle Coal Co.,	Fredell.
Frampton, B. H.,	Clarion.
Glenora Coal Mining Co.,	Buffalo, N. Y.

OPERATOR.	P. O. ADDRESS.
Grieble Bros.,	Lucinda.
Hall, Dawson R.,	505 Pearl St., New York.
Hedstrom Coal Mining Co.,	306 Elliot Sq., Buffalo.
Huey Mining Co.,	Sligo.
Judy, A.,	Lucinda.
Keystone Mining Co.,	East Brady.
Keystone Collieries,	Rochester, N. Y.
Landers, John,	Lucinda.
Maxlers, Rogers Coal Co.,	Freeport.
Monarch Coal Co.,	East Brady.
Monterey Coal Co.,	Leechburg.
Myer, J. B.,	Clarion.
Penn Mining Co.,	Greensburg.
Preston Coal Co.,	1010 Fulton Bldg., Pittsburg.
Raridan & East Brady Coal Co.,	726 Frick Bldg., Pittsburg.
Rochester Coal & Coke Co.,	Rochester, N. Y.
Schell Coal Co., Ltd.,	Lucinda.
Schwabenbauer, John,	Snydersburg.
Sligo Coal & Coke Co.,	Ellwood City.
Thompson, B. W.,	Clarion.
Turkey Run Coal Mining Co.,	Rochester, N. Y.
Underwood, H. A.,	Strattonville.
Wick, H. K., & Co.,	Catfish.
Williams Frank & Co.,	Buffalo, N. Y.
Wilson Coal & Coke Co.,	Clarion.

CLEARFIELD COUNTY.

Ashman Coal Co.,	Philipsburg.
Ashworth Coal Co.	Clearfield.
Atlantic Coal Mining Co.,	Philipsburg.
Atherton & Barnes,	Philipsburg.
Banian Run Coal Mining Co.,	Smokerun.
Barnes Harry & Co.,	Philipsburg.
Barnes John & Son,	Philipsburg.
Bell Run Coal & Coke Co.,	Clearfield.
Bellmore Coal Co.,	Burnside.
Bens Creek Coal Mining Co.,	Altoona.
Berwind White Coal Mining Co.,	Arcade Bldg., Philadelphia.
Berwindale Coal & Coke Co.,	Philadelphia.
Betz Coal Mining Co.,	Betz Bldg., Philadelphia.
Blain Run Coal Co.,	Coalport.
Blair, Charles,	Beccaria.

OPERATOR.	P. O. ADDRESS.
Bloom, Charles,	Grampian.
Brisbin Coal Mining Co.,	Houtzdale.
Brown, W. A., & Son.,	Osceola Mills.
Bulah Coal Co.,	Ramey.
Bulah Shaft Coal Co.,	Ramey.
Buffalo & Susquehanna Coal & Coke Co.,	Buffalo.
Burnadette Mines,	Olanta.
Burns, Michael,	Houtzdale.
Butterworth, Ed., & Son,	Philipsburg.
Cadman Bros.,	Curwensville.
Cascade Coal & Coke Co.,	55 Erie Bank Bldg., Buffalo, N. Y.
Cassidy, James,	Curwensville.
Cataract Coal Co.,	Snow Shoe.
Chestnut Hill Coal Co.,	Ramey.
Clark Bros. Coal Mining Co.,	Philadelphia.
Clearfield Bituminous Coal Corporation,	Clearfield.
Clearfield and Cambria Coal and Coke Co.,	La Jose.
Clearfield Clay Working Co.,	Clearfield.
Clearfield Colliery Co.,	Clearfield.
Clearfield Steel & Iron Co.,	Philipsburg.
Clearmont Coal Mining Co.,	1215 Franklin Bldg., Philadelphia.
Coaldale Mining Co.,	31 Broadway, New York.
Coe, J. D.,	Osceola Mills.
Colonial Coal Mining Co.,	Land Title Bldg., Philadelphia.
Coons, J. W.,	Grampian.
Cornworth Coal Co.,	Winburne.
Corona Coal & Coke Co.,	Madera.
Crain, J. Henry,	Osceola Mills.
Craig, M. & F.,	Brisbin.
Cuba Coal Co.,	Philipsburg.
Decatur Coal Mining Co.,	North American Building, Philadelphia.
Decatur Coal Mining Co.,	Clearfield.
Derby Branch Coal Co.,	Philipsburg.
Duckett F. A.,	Clearfield, R. D., No. 3.
Dunbar Coal Mining Co.,	Altoona.
Ellsworth Dunham Coal Co.,	New York City.
Falk Smith Coal Co.,	Houtzdale.
Falls Creek Coal Co.,	Lock Haven.
Fernwood Coal Co.,	Clearfield.
Finley, E. W.,	Irvona.
Forsythe, R. H.,	Houtzdale.
Fullerton & Barry,	Clearfield.

OPERATOR.	P. O. ADDRESS.
Galehouse, James,	Madera.
Gallagher, J. A.,	Osceola Mills.
Gallagher, P.,	Osceola Mills.
Gearhart Irish Bros.,	Philipsburg.
Good Coal & Clay Co.,	Patton.
Goshen Coal Co.,	Clearfield.
Gould, W. A. & Bros.,	Birsbin.
Graham Coal Co.,	Philipsburg.
Green, J. E.,	Clearfield.
Guion Coal Co.,	Philipsburg.
Gulick, D. F.,	Clearfield, R. D.
Harbison Walker Refractories Co.,	Pittsburg.
Harris, Edward, & Son,	Philipsburg.
Heil, Wm.,	Rosebud.
Henrietta Coal Co.,	Houtzdale.
Hegarty's Samuel, Sons,	Coalport.
Hilldale Coal Co.,	Philipsburg.
Holt, W. F.,	Philipsburg.
Homestead Coal Co., J. E. Horner,	Philipsburg.
Hoover, James H.,	McClellandtown.
Hopkins, Bros.,	Philipsburg.
Hope Coal Co.,	Houtzdale.
Hudson James,	Clearfield.
Hughes & Co.,	Philipsburg.
Irish Bros.,	Philipsburg.
Irvona Coal & Coke Co.,	Philadelphia.
Irvona Coal Co.,	Coalport.
Jefferson & Clearfield Coal & Iron Co.,	Rochester N. Y.
Johnston, W. L.,	Morrisdale Mines, R. R. No. 1.
Johnston, J. A.,	Clearfield, R. D., No. 2.
Johnston & Kerns,	DuBois.
Karthaus Fire Brick Co.,	Karthaus.
Kelly Bros. Coal Co.,	Snow Shoe.
Kelly & Smith,	Snow Shoe.
Kephard, A. F.,	Osceola Mills.
Kratzer, H. A.,	Clearfield.
Keystone Cannel Coal Co.,	Houtzdale.
Lane Coal Co.,	Philipsburg.
Lansberry, A. B.,	Woodland.
Lawhead, Milo E.,	Clearfield.
Lee Coal Co.,	Philipsburg.
Leland Coal Mining Co.,	New York City.

OPERATOR.	P. O. ADDRESS.
Little Creek Coal & Coke Co.,	Clearfield.
Long, Caleb E.,	Philipsburg.
Lulu Coal Co.,	Philipsburg.
Lydie, A. D.,	Mahaffey.
Madeira Hill Coal Co.,	Philipsburg.
Mohoning Coal & Coke Co.,	DuBois.
Marshall, Thos.,	Houtzdale.
Mehaffey, R. F.,	Mehaffey.
Mimis, John T.,	DuBois, R. D., No. 3.
Minns, Geo., Jr.,	DuBois.
Monareh Coal Co.,	Oseeola Mills.
Morrisdale Coal Co.,	Broad & Chestnut St., Philadelphia.
Mosier & Jose,	La Jose.
Moshannon, C. M. Co.,	Oseeola Mills.
Mountz, S. J. & Co.,	Smithmill.
Myers, John H.,	Curwensville.
McGlynn, Thomas.	Madera.
McKenzie & Sons,	Houtzdale.
McPhelemy, James & John,	Brisbin.
Norris, C. O.,	Curwensville.
Northwestern Mining & Exchange Co.,	50 Church St., New York.
Olanta Coal Mining Co.,	Hollidaysburg.
Osceola Coal Mining Co.,	Osceola Mills.
Osceola Silica & Fire Brick Co.,	Osceola Mills.
O'Shanter Coal Co.,	West End Trust Co., Philadelphia.
Parr, C. P.,	Clearfield, R. D., 1.
Peale, Peacock & Kerr,	New York City.
Peale, Rembrant,	Grand Central Terminal, New York.
Penfield Coal & Coke Co.,	Penfield.
Pennsylvania Coal & Coke Co.,	17 Battery Place, New York.
Pennsylvania Iron Co., Ltd.,	Lancaster.
Peters, Thomas,	Tyler.
Peters, Elmer,	Clearfield.
Peterson, Andrews,	Lanee.
Pilkington & Ellery.	Grampian.
Pittsburg & Susquehanna Coal Co.,	Philipsburg.
Premier Coal Mining Co.,	Philadelphia.
Pritchard, Wm.,	Wigton.
Prichard, J.,	Philipsburg.
Potts Run Coal Co.,	Clearfield.
Potter Bigler & Potter.	Clearfield.

OPERATOR.	P. O. ADDRESS.
Punxsutawney Coal Mining Co.,	Punxsutawney.
Quinn Bros.,	Houtzdale.
Ramey Coal Co.,	Ramey.
Reed Colliery Co.,	Dudley.
Riddle, H. W.,	Curwensville, R. D. I.
Rochester & Pittsburg Coal & Iron Co.,	Rochester, N. Y.
Roessner, J. W.,	Clearfield.
Rogers, Frank M.,	Houtzdale.
Runk, Ross R.,	Philipsburg.
Scott, H. B. & Co.,	Philipsburg.
Shimel, John F.,	Philipsburg.
Smeal, Sheridan,	West Decatur.
Smith, Luke,	Brisbin.
Swoope, H. B. & Co.,	Madera.
Swoope, H. B.,	Madera.
Stage, Isaac,	Clearfield.
Standard Moshannon Coal Co.,	Williamsport.
Sterling Coal Co.,	421 Chestnut St., Philadelphia.
Stoltz, A.,	Houtzdale.
Summit Coal Co.,	Philipsburg.
Victoria Coal Mining Co.,	Philipsburg.
Vivian Coal & Coke Co.,	Philadelphia.
Walker, E. J. & Co.,	Brisbin.
White Dugan Coal Co.,	Philipsburg.
Whitney Coal Co.,	Ramey.
Wilkinson, J. H.,	Houtzdale.
Wilkinson & Mallin,	Philipsburg.
Wilson Coal Co.,	Carrolltown.
Williams, B. O.,	Clearfield.
Withrow, J. D.,	Clearfield, R. D. No. 2.
Woolridge, A. E.,	Woodland.
Wright, A. K. & Co.,	Clearfield.
Zeigler Coal Co.,	Houtzdale.

CLINTON COUNTY.

Harbinson Walker Refractories Co.,	Pittsburg.
Kettle Creek Coal Mining Co.,	Williamsport.
Rock Cabin Co.,	Lock Haven.
Scootac Mining Co.,	Williamsport.
Susquehanna Fire Brick Co.,	Renova.
West Branch Fire Brick Co.,	Renova.

ELK COUNTY.

OPERATOR.	P. O. ADDRESS.
Dents Run Mining Co.,	Dents Run.
Kaul & Hall,	St. Marys.
Northwestern Mining & Exchange Co.,	50 Church St., New York.
Penfield Coal and Coke Co.,	Penfield.
Shawmut Mining Co.,	St. Marys.
St. Marys Sewer Pipe Co.,	St. Marys.

FAYETTE COUNTY.

Ada Coke Co.,	Uniontown
Adams, Henry,	Brownfield.
Albrecht, G. E.,	Connellsville.
American Sheet & Tin Plate Co.,	Pittsburg
Atlas Coke Co.,	Leetonia, O.
Banning Connellsville Coke Co.,	Banning.
Barnes, Wm. P.,	Uniontown.
Baxter Ridge Coke Co.,	Uniontown.
Bessemer Coke Co.,	Pittsburg.
Beeson, W. H.,	Uniontown.
Bishop, W. A.,	201 E. Green St., Connellsville.
Brier Hill Coke Co.,	Brier Hill.
Bryne, Jos., & Co.,	New Salem.
Brown, Harry W.,	South Brownsville.
Brown & Cochran,	Dawson.
Brownfield, I. H.,	Uniontown.
Brownsville Coke Co.,	Uniontown.
Browning Coke Co.,	Uniontown.
Carothers, J. R.,	Uniontown.
Century Coke Co.,	Brownsville.
Champion Connellsville Coke Co.,	Brownsville.
Cheat Haven Coal & Coke Co.,	Cheat Haven.
Cochran Bros.,	Dawson.
Cochran, Jas., Sons & Co.,	Dawson.
Cochran, W. H., Coal & Coke Co.,	Dawson.
Colonial Coke Co.,	Pittsburg.
Connellsville Coke Co.,	Brownsville.
Connellsville Central Coke Co.,	Empire Bldg., Pittsburg.
Consolidated Connellsville Coke Co.,	Uniontown.
Devers, Frank,	Newell.
Dunlap Connellsville Coke Co.,	Connellsville.
Dunbar Furnace Co., Walter C. Harris, Rec.,	750 Bullitt Bldg., Philadelphia.
Echord Coal Co.,	Connellsville.
Fayette Coke Co.,	New Salem.

OPERATOR.	P. O. ADDRESS.
Franklin Coke Co.,	Uniontown.
Frick, H. C., Coke Co.,	Pittsburg.
Geary, H. A.,	Blairsville.
Genuine Connellsville Coke Co.,	Waltersburg.
Gilmore Coke Co.,	Uniontown.
Gilmore Coal & Coke Co.,	Uniontown.
Gray, J. S.,	Uniontown.
Hastedd, Semans Coal & Coke Co.,	Uniontown.
Hess, W. E.,	Fairchance.
Henderson Coal Co.,	Pittsburg.
High House Coal & Coke Co.,	Smithfield.
Hogsett Coal & Coke Co.,	Uniontown.
Hope Coke Co.,	Uniontown.
Hutchinson, R. H.,	Dawson.
Iron City Coal & Coke Co.,	Pittsburg.
Jacobs Creek Coal & Coke Co.,	Uniontown.
Kaine & Wilkey Coke Co.,	Uniontown.
Keister, B. F., & Co.,	Scottdale.
LaBelle Coke Co.,	Steubenville, O.
Lang Coal & Sand Co.,	Connellsville.
Lincoln Coal & Coke Co.,	Scottdale.
Lough Coal Co.,	Somerfield.
Mitchell, W. R.,	Newell.
McKeefrey Coal Co.,	Leetonia, O.
Monongahela River Consolidated Coal & Coke Co.,	Pittsburg.
Mount Hope Coke Co.,	Uniontown.
Naomi Coal Co.,	Bank for Savings Bldg., Pittsburg.
New Comer Coke Co.,	Uniontown.
Olive Coal Co.,	Uniontown.
Oliver & Snyder Steel Co.,	Pittsburg.
Orient Coke Co.,	Uniontown.
Parshall, W. J.,	Uniontown.
Penn Coke Co.,	Uniontown.
Perry Coke Co.,	Diamond Bank Bldg., Pittsburg.
Pittsburg Coal Co.,	Pittsburgh.
Pittsburg & Erie Coal Co.,	Erie.
Prospect Coke Co.,	Uniontown.
Provance, T. S.,	Hopwood.
Puritan Coke Co.,	McClellantown.
Rainey, W. J.,	527 5th Ave., New York.
Republic Iron & Steel Co.,	Youngstown, O.
Rich Hill Coke Co.,	Uniontown.

OPERATOR.	P. O. ADDRESS.
Robinson, Henry,	Smithfield, R. D., 6
Ross, G. W.,	Point Marion.
Sackett, H. R., & Co.,	Smithfield.
Sacket Coke Co.,	Pittsburg.
Sapper Coke Co.,	Uniontown.
Shannon Coal & Coke Co.,	Uniontown.
Smith, S. C.,	Wilkinsburg.
Smith, Harris Coal & Coke Co.,	Uniontown.
Smithfield Coal & Coke Co.,	Smithfield.
South Fayette Coke Co.,	Uniontown.
Southern Connellsville Coke Co.,	Uniontown.
Stauffer, J. R., & Co.,	Scottdale.
Stewart Iron Co., Ltd.,	Sharon.
Strickler, J. S.,	Vanderbilt.
Struthers Coal & Coke Co.,	Cleveland, O.
Superba Coal Co.,	Connellsville.
Sunshine Coal & Coke Co.,	Uniontown.
Taylor Coal & Coke Co.,	Cleveland, O.
Thompson Connellsville Co.,	1104 Diamond Bank Bldg., Pittsburg.
Tower Hill Connellsville Coke Co.,	Uniontown.
United Connellsville Coke Co.,	Pittsburg.
Union Connellsville Coke Co.,	Uniontown.
Vance, J. R.,	Smithfield.
Victor, Geo. B.,	Fairchance.
Waltersburg Coke Co.,	Waltersburg.
Washington Coal & Coke Co.,	Dawson.
Whyel, John A., & Son,	Uniontown.

GREENE COUNTY.

Dilworth Coal Co.,	232 4th Ave., Pittsburg.
Hopton, Chas. A.,	Ceylon.
Johnson, J. A.,	Waynesburg.

HUNTINGDON COUNTY.

Black, A. J.,	Broadtop.
Broadtop Coal & Mineral Co.,	Jacobs.
Carbon Coal & Coke Co.,	85 Devonshire St., Boston, Mass.
Griffith, J. E., & Son,	Broadtop.
Louise Coal Co.,	Dudley.
Possum Hollow Coal & Coke Co.,	Huntingdon.
Reed Colliery Co.,	Dudley.

OPERATOR.	P. O. ADDRESS.
Rock Hill Iron & Coal Co.,	Robertsdale (437 Chestnut St., Philadelphia).
Rocky Ridge Coal Co.,	East Pittsburg.
Thropp, Jos. E.,	Everett.
Wrays Hill Coal Co.,	Huntingdon.

INDIANA COUNTY.

Auld Run Coal Co.,	Heshbon.
Bear Run Coal & Coke Co.,	Punxsutawney.
Bells Mill Coal Co.,	Blairsville.
Bennett Bros.,	Blairsville.
Blairsville Coke Co.,	Blairsville.
Bolivar Face Brick Co.,	Bolivar.
Bolivar Terra Cotta Brick Co.,	Bolivar.
Bowman Coal Mining Co.,	Saltsburg.
Buffalo & Susquehanna Coal Mining Co.,	Buffalo, N. Y.
Chestnut Ridge Coal Co.,	West End Trust Bldg., Philadelphia.
Clearfield Bituminous Coal Corporation,	Clearfield.
Clark Bros, Coal Mining Co.,	Philadelphia.
Commonwealth Coal & Coke Co.,	Land Title Bldg., Philadelphia.
Conemaugh Coal Co.,	Blairsville.
Cramer, Coal, Coke & Stone Co.,	Johnstown.
Dixon Coal Co.,	727 Land Title Bldg., Philadelphia.
Dixonville Coal Co.,	Johnstown.
Edri Coal Co.,	Leechburg.
Empire Coal Mining Co.,	Clearfield.
Glenwood Coal Co.,	1000 Franklin Bank Bldg., Philadelphia.
Graceton Coke Co.,	Graceton.
Graff Coal Co.,	Blairsville.
Greenwich Coal & Coke Co.,	Greensburg.
Hamilton Coal Co.,	Punxsutawney.
Hillsdale Coal & Coke Co.,	Glen Campbell.
Hines Coal Co.,	727 Land Title Bldg., Philadelphia.
Indiana Coal Co.,	Glen Campbell.
Jefferson & Clearfield Coal & Iron Co.,	Rochester, N. Y.
Josephine Furnace & Coke Co.,	Josephine.
Kiskiminetas Coal Co.,	Blairsville.
Lackawanna Coal & Coke Co.,	Lackawanna.
McCrea, W. P., Bert Huston,	Blairsville. R. D., 1.
Miller, Bryan,	Creekside.
Mitchell Watson Coal Co.,	Saltsburg.
Peale, Rembrant,	Grand Central Terminal, New York.

OPERATOR.	P. O. ADDRESS.
Pennsylvania Coal & Coke Co.,	17 Battery Place, New York.
Penn-Mary Coal Co.,	Morris Bldg., Philadelphia.
Peterman, R. C.,	Creekside, R. D., No. 1.
Rochester, J. H.	Marion Center.
Rochester & Pittsburg Coal & Iron Co.,	Rochester, N. Y.
Roy Coal Co.,	Blacksville.
Rummell Coal Mining Co.,	Windber.
Punxsutawney Coal Mining Co.,	Punxsutawney.
Putt, Harrison,	Clymer.
Saltsburg Coal Mining Co.,	Leechburg.
Seneca Coal Mining Co.,	428 Prudential Bldg., Buffalo, N. Y.
Smith, Robert, Coal Co.,	Blairsville.
Summit Coal Mining Co.,	Punxsutawney.
St. Clair, John P.,	Homer City.
Stewart, John,	Blairsville.
Tearing Run Coal Co.,	Indiana.
Urey Ridge Coal Co.,	Philadelphia.
Wharton Coal & Coke Co.,	Coral.

JEFFERSON COUNTY.

Allegheny River Mining Co.,	Kittanning.
Anita Coal Co.,	Punxsutawney.
Avoine Coal and Coke Co.,	Punxsutawney.
Baldouf, August,	Reynoldsville.
Brown, John W.,	Anita.
Brownsville Coal Co.,	Punxsutawney.
Buckingham Coal Mining Co.,	Clarion.
Camp Run Mining Co.,	Fuller.
Carlson, John,	Brockwayville.
Carlson & Clark,	Punxsutawney.
Carrick Gray Coal Co.,	Punxsutawney.
Cascade Coal & Coke Co.,	Erie County Bank Bldg., Buffalo, N. Y.
Cortez Coal Co.,	Punxsutawney.
Depp Coal Co.,	Punxsutawney.
Haag, F. W.,	Walston.
Hutcheson, W. F.,	Falls Creek.
Jefferson & Clearfield Coal & Coke Co.,	Rochester, N. Y.
Jefferson Coal Co.,	Coal Glen.
Lan, F. A.,	Lanes Mills.
Lemmon, F. W.,	Brockwayville.
Lewis, L. M.,	Punxsutawney.
Loeb, H.,	2733 Cambridge St., Philadelphia.

OPERATOR.	P. O. ADDRESS.
McConnell Coal Co.,	DuBois.
McKnight Coal Co.,	Brockwayville.
McLeary, John & Co.,	Punxsutawney.
Northwestern Mining & Exchange Co.,	New York City.
New York & Pennsylvania Co.,	New York City.
Panther Run Coal Co.,	Pardus.
Paradise Coal Co.,	Wishaw.
Postlewaite, W. P.,	Valier.
Peale, Rembrant,	Grand Central Terminal, New York.
Prescott, W. A.,	Punxsutawney.
Pittsburg Punxsutawney Coal Co.,	Punxsutawney.
Rochester & Pittsburg Coal & Iron Co.,	Rochester, N. Y.
Ross Run Coal Co.,	Punxsutawney
Runaway Run Coal & Coke Co.,	Reynoldsville.
Shawmut Mining Co.,	St. Marys.
Stewart Coal Co.,	Knoxdale.
Toby Coal Mining Co.,	Brockwayville.
Valier Coal Co.,	Punxsutawney.
Verstine Hibbard Co.,	Brookville.
Wallwork, Samuel,	Summerville.
Wheeler, David,	Hill St., 312, Reynoldsville.
Williams Coal Co.,	Punxsutawney.

LAWRENCE COUNTY.

Beaver Coal & Coke Co.,	New Castle.
Burns, C. B.,	Ellwood City, R. D., No. 2.
Clayton & Kirkham,	Ellwood City, R. D., No. 1.
Grey, Jas. E.,	Ellwood City.
Sharon Coal & Limestone Co.,	Carnegie Bldg., Pittsburg.
Witch Hazel Coal Co.,	Youngstown, O.

LYCOMING COUNTY.

English, F. N.,	Lloyd.
Red Run Coal Co.,	Roaring Branch.

McKEAN COUNTY.

Clermont Sewer Pipe Co.,	Clermont.

MERCER COUNTY.

OPERATOR.	P. O. ADDRESS.
Berger-Aiken Coal Co.,	McChestney Bldg., Pittsburg.
Cann Coal Co.,	Stoneboro.
Crystal Block Coal & Clay Manufacturing Co.,	Mercer.
Fowler Coal Mining Co.,	114 Oak Hill Ave., Youngstown, O.
Grove Coal Co.,	Grove City.
Jackson Mining Co.,	Stoneboro.
Leesburg Coal Co.,	Struthers, O.
Mercer Iron & Coal Co.,	Stoneboro.
Okes Bros.,	Volant, R. D., No. 2.
Pardoe Coal Co.,	Sharon.
Sharon Coal & Limestone Co.,	Carnegie Bldg., Pittsburg.
Shenango Coal Co.,	New Castle.
Wastabaugh Coal Co.,	Grove City.
Westerman Filer Co.,	Sharon.

SOMERSET COUNTY.

Ajax Coal Co.,	Meyersdale.
Atlantic Coal Co.,	Meyersdale.
Baker Whitely Coal Co.,	Baltimore, Md.
Bando Coal Co.,	Mt. Carmel.
Barron, W. A. & Son,	Somerset, R. D. No. 1.
Belmont Quemahoning Coal Co.,	New York City.
Bender, C. W.,	Elk Lick.
Berwind White Coal Mining Co.,	Windber.
Boynton Coke Co.,	Elk Lick.
Brandonburg Coal Mining Co.,	Johnstown.
Brothers Valley Coal Co.,	90 West St., New York.
Brubaker, Geo. P.,	Berlin.
Carbo Smokeless Coal Co.,	Holsopple.
Consolidated Coal Co.,	Baltimore, Md.
Coronet Coal Co.,	Philadelphia.
Cumberland Basin Coal Co.,	Real Estate Trust Bldg., Philadelphia.
Elk Lick Coal Co.,	Meyersdale.
Engle, J. J.,	Elk Lick.
Enterprise Coal Co.,	Garrett.
Falk, L. S., Lewis Haupt, Mgr.,	Elk Lick.
Federal Coal Co. of Pennsylvania,	Philadelphia.
Fisher Smokeless Coal Co.,	Franklin Bank Bldg., Philadelphia.
Glessner, Jno. R.,	Shanksville.
Goghogen, James.	Somerset.
Grassy Run Coal Co.,	Elk Lick.

OPERATOR.	P. O. ADDRESS.
Hamilton, S. M., & Co.,	Wells Creek.
Hocking Coal Co.,	Meyersdale.
Hyatt, J. B.,	Confluence.
Jenner Quemahoning Coal Co.,	Pittsburg.
Kelly, Wm. P., Brick Co.,	Windber.
Kelso Smokeless Coal Co.,	Greensburg.
Kenneth Coal Co., D. A. Nelson,	Pittsburg.
Keystone Coal Co.,	York.
Keystone Smokeless Coal Co.,	Pittsburg.
Knickerbocker Smokeless Coal Co.,	Hoversville.
Lestonburg Coal Mining Co.,	Meyersdale.
Maple Ridge Coal Co.,	Holsopple.
Merchants Coal Co.,	Pittsburg.
Merrill, W. A., Co.,	Garrett.
Meyersdale Coal Co.,	Meyersdale.
Meyersdale Fuel Co.,	Meyersdale.
Meyersdale Smokeless Coal Co.,	Elk Lick
Pennsylvania Smokeless Coal Co.,	Holsopple
Pittsburg Cambria Coal Co.,	Pittsburg
Preston, Jas. W.,	Johnstown.
Pyle, H. H.,	Somerset.
Quemahoning Coal Co.,	Somerset.
Reading Iron Co.,	Kimmelton.
Randolph Coal Co.,	Meyersdale.
Ream, John O.,	Berlin.
Rowe, C. J., & Bros.,	Meyersdale.
Rummell Coal Co.,	Windber.
Savage Fire Brick Co.,	Meyersdale.
Shade Coal Mining Co.,	Mt. Pleasant.
Shade Smokeless Coal Co.,	Somerset.
Smith, Myers & Co.,	1009 West End Trust Bldg., Philadelphia.
Somerset & Cambria Coal Co.,	Johnstown.
Somerset Fuel Co.,	Hicksville, N. Y.
Somerset Mining Co.,	Hoversville.
Somerset Smokeless Coal Co.,	Bank for Savings Bldg., Pittsburg.
Standard Quemahoning Co.,	Boswell.
Stoner Coal Co.,	Berlin.
Superior Coal Mining Co.,	Windber.
Wilmore Coal Mining Co.,	Windber.
Windber White Coal Mining Co.,	Windber.

TIOGA COUNTY.

OPERATOR.	P. O. ADDRESS.
Bache Mining Co.,	Wellsboro.
Blossburg Coal Co.,	50 Church St., New York.
Blossburg & Coal Run Coal Co.,	Blossburg.
Booth, Fred,	Blossburg.
Bower Coal Co.,	Blossburg.
Burgess England Coal Co.,	Wellsboro.
Fall Brook Coal Co.,	Corning, N. Y.
Golden Bros.,	Blossburg.
Heron, Jas. D.,	Blossburg.
Jenkins Bros.,	Blossburg.
Kelly, M. J., & Co.,	Blossburg.
Lundquist, A. J., & Co.,	Wellsboro, R. D., 1.
Norwalk Coal Co., R. D. Jenkins,	Blossburg.
Morris Run Coal Mining Co.,	Wilkes-Barre.
Norman Bros.,	Blossburg.
O'Donnell Bros.,	Morris Run.
Putman, J. H.,	Blossburg.
Schlutz Coal Co.,	Blossburg.
Terry Coal Co.,	Blossburg.

WASHINGTON COUNTY.

Banfield, Geo. S.,	Houston.
Bessemer Coke Co.,	Oliver Bldg., Pittsburg.
Boyes, John,	Roscoe.
Bulger Block Coal Co.,	6366 Frankstown Ave., Pittsburg.
Burgettstown Coal Co.,	South Burgettstown.
Carnegie Coal Co.,	1315 Park Bldg., Pittsburg.
Clyde Coal Co.,	Bessemer Bldg., Pittsburg.
Conely, Henry,	Washington, R. D., 1.
Diamond Coal Co.,	1108 House Bldg., Pittsburg.
Ellsworth Collieries Co.,	Ellsworth.
Flanagan, W. J.,	Hanlin Station, R. D., 1.
Frye, H. M.,	Speers.
Greek, John M., Co.,	Pittsburg.
Harbison Walker Refractories Co.,	Pittsburg.
Herriott, W. M.,	Houston.
Heslep, Fred,	Donora.
Hoon, J. D.,	Monongahela.
Litton, W. C.,	Fredericktown.
McClain, W. W. Sons,	Washington.

OPERATOR.	P. O. ADDRESS.
Meadow Lands Coal Co.,	Frick Bldg., Pittsburg.
Monongahela River Consolidated Coal & Coke Co.,	Pittsburg.
Pittsburg Buffalo Co.,	Pittsburg.
Pittsburg Coal Co.,	Pittsburg.
Pittsburg & Erie Coal Co.,	Erie.
Pittsburg & Eastern Coal Co.,	Cleveland, O.
Pittsburg Plate Glass Works,	Trust Bldg., Pittsburg.
Pittsburg & Southwestern Coal Co.,	Avella.
Pittsburg & Westmoreland Coal Co.,	Fulton Bldg., Pittsburg.
Reed, C. F.,	Charleroi.
Robb, T. E.,	Venetia.
Pryor Coal Co.,	Greensburg.
Sanford, J. H., Coal Co.,	1315 Park Bldg., Pittsburg.
Shearm Bros.,	Canonsburg.
Smith, John H.,	Monongahela, R. F. D., 3.
Thompson, Noab,	Gastonville.
Turney, Wm. R. & Co.,	Greensburg.
United Coal Co.,	Pittsburg.
Vesta Coal Co.,	Pittsburg.
Verner Coal & Coke Co.,	Carnegie.
Warner Leonard Colliery Co.,	Cleveland.
Waverly Coal & Coke Co.,	Oliver Bldg., Pittsburg.
Weise, Edmund R.,	Yohoghany.
Wolfe, Carey,	Alienport.
Woods, Robert,	Venetia.
Youghiogheny & Ohio Coal Co.,	Cleveland, O.

WESTMORELAND COUNTY.

Abbotichio, N.,	Latrobe.
Adamsburg Gas Coal Co.,	Greensburg.
Allen, John,	Monessen.
Appolo Coal Co.,	Greensburg.
Atlantic Crushed Coke Co.,	Greensburg.
Barnhart, Frank D.,	Mt. Pleasant.
Baker, A. M.,	Greensburg.
Beatty, L. L.,	Beatty.
Berkey, T. M.,	Bolivar.
Bessemer Coke Co.,	Oliver Bldg., Pittsburg.
Binnie, Robert,	Bolivar.
Bolivar Coal & Coke Co.,	421 Wood St., Pittsburg.
Boyd, Geo. E., Coal Co.,	Tarentum.

OPERATOR.	P. O. ADDRESS.
Boyd Bros. Coal Co.,	Tarentum.
Braeburne Steel Co.,	Braeburne.
Brownfield, I. H.,	Uniontown.
Brush Run Coal & Coke Co.,	Mt. Pleasant.
The Ben Franklin Coal Co.,	Freeport.
Bussard, W. H.,	Arona.
Byers, M. F.,	Tarrs.
Clair & Rockwell Coal Co.,	Connellsville.
Clare Coke Co.,	Greensburg.
Coates, Thomas,	Greensburg.
Cochran Coal Co.,	Salina.
Columbia Coal and Coke Co.,	708 Diamond Bank Bldg., Pittsburg.
Connellsville Mutual Coke Co.,	Scottdale.
Crosby, W. S.,	Greensburg, R. F. D., No. 1.
Dalleba Coal Co.,	Blairsville.
Darlington Coal Co.,	Ligonier.
Davis, H. R.,	702 Oliver Bldg., Pittsburg.
Davis & King,	222 Gertrude St., Latrobe.
Donehue Coal Co.,	Greensburg.
Dornon Coal Co.,	New Alexandria.
Dunn Connellsville Coke Co.,	Pittsburg.
Export Coal Co.,	507 Wabash Bldg., Pittsburg.
Fort Ligonier Coal Co.,	Latrobe.
Fort Palmer Coal & Coke Co.,	Latrobe.
Frick, H. C., Coke Co.,	Pittsburg.
Finance U. S. & Securities Co.,	Pittsburg.
Hamilton Coal Mining Co.,	Tarentum.
Henderson Coal Co.,	Pittsburg.
Herman, S. J.,	Penns Station.
Hostetter Connellsville Coke Co.,	Pittsburg.
Howard Gas Coal Co.,	Greensburg.
Humphries, E. A., Coal & Coke Co.,	Derry.
Immel, A. F.,	Greensburg.
Jamison Coal & Coke Co.,	Greensburg.
Kennerly, J. Blair,	Philadelphia.
Keystone Coal Co.,	York.
Keystone Coal & Coke Co.,	Greensburg.
Kew, W. H.,	Claridge.
Kier Fire Brick Co.,	Pittsburg.
King Coke Co.,	Uniontown.
Latrobe Coal Co.,	Altoona.

OPERATOR.	P. O. ADDRESS.
Latrobe Connellsville Coal & Coke Co.,	Latrobe.
Latrobe Cresson Coal Mining Co.,	Latrobe.
Latrobe Pennsylvania Coal Co.,	Latrobe.
Leechburg Coal & Coke Co.,	Leechburg.
Lewis Coal Co.,	Leechburg.
Ligonier Coal Co.,	Latrobe.
Linn, John A.,	Smithton.
Lobinger Bros.,	Mt. Pleasant.
Loyal Hanna Coal Co.,	2136 Land Title Bldg., Philadelphia.
Lucesco Coal Co.,	Greensburg.
Magee Coke Co.,	Uniontown.
Manor Gas Coal Co.,	224 S. 3rd St., Philadelphia.
Marks, F. F.,	Latrobe, R. D., No. 1.
Marrietta Connellsville Coke Co.,	Connellsville.
McFarland Heirs,	Greensburg, R. D., 3.
McHail, Thomas,	Bolivar.
Miller, John D.,	Greensburg.
Hoher, Thomas,	Blairsville.
Monessen Coal & Coke Co.,	Pittsburg.
Montgomery, Jos. M.,	West Newton.
Mt. Pleasant Connellsville Coke Co.,	Greensburg.
New Alexandria Coke Co.,	Greensburg.
Nineveh Coal & Coke Co.,	Greensburg.
New York & Cleveland Gas Coal Co.,	Pittsburg.
Northern Connellsville Coke Co.,	Connellsville.
Ocean Coal Co.,	Philadelphia.
Penn Gas Coal Co.,	222 S. 3rd St., Philadelphia.
Peoples, R. M,.	Ligonier.
Pittsburg & Baltimore Coal Co.,	Bank for Savings Bldg., Pittsburg.
Pittsburg Coal Co.,	Pittsburg.
Peerless Connellsville Coke Co.,	Wabash Bldg., Pittsburg.
Perkins, C.,	Tarrs.
Peters Paper Co.,	Latrobe.
Pittsburg, Westmoreland Coal Co.,	Fulton Bldg., Pittsburg.
Pine Run Co.,	Leechburg.
Pine Run Coal & Coke Co.,	Leechburg.
Paulton Coal Mining Co.,	Leechburg.
Poorbough, Nelson,	Mt. Pleasant, 1.
Rainey, W. J.,	527 5th Ave., New York.
Ramsey, C. D.,	New Florence.
Roaring Run Mining Co.,	Blairsville.
Ruff, D. L.,	Tarrs Station.

OPERATOR.	P. O. ADDRESS.
Scottdale Coal & Coke Co.,	Scottdale.
Seger Bros.,	Ligonier.
Shenango Furnace Co.,	Pittsburg.
Shuey Bros.,	Greensburg.
Skelly, W. B., Coal Co.,	Export.
Smith, B. F.,	Greensburg.
Smith, D. F. & E. E.,	Latrobe, R. D. 1.
Soisson, Joseph, Fire Brick Co.,	Connellsville.
South Ligonier Coal Co.,	Ligonier.
South Fayette Coke Co.,	Uniontown.
Springer, Howard,	Mt. Pleasant, R. F. D., 1.
Stauffer Connellsville Coke Co.,	Scottdale.
Sterling, H. S.,	Pricedale.
Sunshine Coal & Coke Co.,	Uniontown.
Suter, C. M.,	Sutersville.
Syster, F. S.,	New Derry.
Torrence, J. F.,	Connellsville.
United Connellsville Coke Co.,	Pittsburg.
Unity Connellsville Coke Co.,	Latrobe.
Unity Coal Co.,	Latrobe.
United States Finance & Securities Co.,	804-6 Union Bank Bldg. Pittsburg.
Vandergrift Coal Co.,	Leechburg.
Valley Camp Coal Co.,	Cleveland, O.
Valley Coal Co.,	Leechburg.
Veteran Coke Co.,	Greensburg.
Weise, E. R.,	Robbins Station.
Welch & Walters,	Smithton.
Wenona Coal Co.,	Monessen.
Westmoreland Brick Co.,	Hunker.
Westmoreland Coal Co.,	Irwin.
Westmoreland County Home,	Greensburg.
West Leechburg Steel Co.,	1526 Farmers Bank Bldg., Pittsburg.
West Penn Mining Co.,	Leechburg.
Wisser, C. H.,	Sutersville.
Whyel Coke Co.,	Uniontown.
Youghiogheny & Ohio Coal Co.,	Cleveland.
Zundell Coal Co.,	Smithton.

COKE.

COKE.

The production of coke in the United States in 1911 was 6,157,321 short tons, or 14.8 per cent. less than that of 1910, and the value was $15,611,852 or 15.6 per cent. less than the preceding year.

In Pennsylvania the decrease was 4,391,672 short tons, or 16.7 per cent. in quantity, and $12,201,232 or 22.1 per cent. in value. The average price decreased from $2.10 in 1910 to $1.96 per ton in 1911, the lowest price since the year 1904.

The total number of ovens in 1911 was 54,904, a decrease of 752 from the preceding year. Of the 279 establishments reporting, 66 (with 4,816 ovens), were not in operation at any time during the year, and 12,461 ovens were idle in the various operating plants, thus making a total of 17,277 idle ovens, almost one-third of the entire number. At the close of 1911, 1,271 ovens were in process of erection, being the smallest number since 1898. Of the new ovens in Process of building 360 were bi-product and 204 rectangular ovens.

While Pennsylvania produces almost one-half of the coal mined in the United States, almost two-third of the coke is made in the State. The production in the two counties of Fayette and Westmoreland was 17,951,167 tons, or over one-half of the entire coke production in the United States.

The statistics of the manufacture of coke in the United States, and in Pennsylvania are shown by the following table:

MANUFACTURE OF COKE IN PENNSYLVANIA AND UNITED STATES 1900 to 1911

	Penna	U. S.	Penna.		U. S.		Penna.	U. S.	Pa.	U. S.	Penna.	U. S.	Penna.	U. S.	Penna.	U. S.
			OVENS.		OVENS.											
	Establishments.	Establishments.	Built.	Building.	Built.	Building.	Coal used, short tons.	Coal used, short tons.	Yield of coal in coke per ton.	Yield of coal in coke per ton.	Coke produced, short tons.	Coke produced, short tons.	Total value of coke.	Total value of coke.	Price of coke per ton.	Price of coke per ton.
1900	177	496	32,548	2,310	58,484	5,804	20,239,966	32,113,543	66.00	63.9	13,357,295	20,533,348	$29,692,258	$47,443,331	$2.22	$2.31
1901,	188	423	34,906	832	64,001	5,155	21,736,467	34,207,965	66.00	63.7	14,355,917	21,795,883	27,066,361	44,445,923	1.885	2.039
1902,	196	456	36,609	2,332	69,069	8,758	25,017,326	39,604,007	65.9	64.1	16,497,910	25,401,730	38,451,722	63,339,167	2.33	2.49
1903,	212	500	40,092	1,785	79,187	6,275	23,706,455	39,405,773	65.9	64.1	15,639,011	25,262,360	38,930,000	66,459,623	2.49	2.63
1904,	217	507	42,165	1,621	83,599	4,430	22,432,034	36,531,608	66.2	64.8	14,861,064	23,661,106	25,027,462	46,144,941	1.684	1.95
1905,	226	519	42,608	2,384	87,564	4,751	31,030,345	49,530,677	66.3	65.07	20,573,736	32,231,129	42,253,178	72,476,196	2.054	2.249
1906,	239	532	47,185	2,373	93,901	4,519	34,503,513	55,746,374	66.8	65.3	23,060,511	36,401,217	54,184,531	91,608,034	2.35	2.52
1907,	253	552	51,364	1,337	99,680	2,546	39,733,177	61,946,109	66.7	65.8	26,513,214	40,779,564	67,638,024	111,539,126	2.55	2.74
1908,	252	551	52,606	1,720	101,218	2,241	23,215,964	39,440,837	66.8	66.00	15,511,634	26,033,518	32,569,621	62,483,983	2.10	2.40
1909,	283	579	54,506	2,072	103,982	2,950	36,983,568	59,354,937	67.3	66.2	24,905,525	39,315,065	50,377,035	89,965,483	2.02	2.29
1910,	288	578	55,656	1,334	104,440	2,567	39,455,785	63,088,327	66.7	66.1	26,315,607	41,708,810	55,254,599	99,742,701	2.10	2.39
1911,	279	570	54,904	1,271	103,879	2,254	32,865,655	53,278,248	66.7	66.7	21,933,935	35,551,489	43 053,367	84,130,849	1.96	2.37

The following table shows the relative number of ovens of all kinds in the United States and in Pennsylvania in the years 1897 to 1911, in which it will be seen the relative rank of Pennsylvania as regards the number of ovens was 56.5 per cent. in 1897 and 53 per cent. in 1911.

NUMBER OF COKE OVENS IN PENNSYLVANIA COMPARED WITH UNITED STATES AT CLOSE OF EACH YEAR 1897 TO 1911.

Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.
1897	1897	1898	1898	1899	1899	1900	1900	1901	1901	1902	1902	1903	1903	1904
26,910	47,668	27,157	48,383	27,591	49,603	32,548	58,484	34,906	64,001	36,602	69,069	40,239	79,334	42,165

United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.
1904	1905	1905	1906	1906	1907	1907	1908	1908	1909	1909	1910	1910	1911	1911
83,599	42,608	87,564	47,185	93,901	51,364	99,680	52,606	101,218	54,506	103,982	55,656	**104,440**	54,904	103,879

The total number of tons of coal coked in Pennsylvania as compared to the total in the United States is shown in the following tables, also the total value of the output of coke in Pennsylvania and in the United States for the years 1896 to 1911:

QUANTITY OF COAL USED IN THE MANUFACTURE OF COKE IN PENNSYLVANIA AND THE UNITED STATES IN 1896 TO 1911, IN SHORT TONS.

1896		1897		1898		1899		1900	
Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.
a11,124,610	18,694,422	a13,538,646	20,907,319	a16,307,841	25,249,570	b19,930,419	30,219,343	20,239,966	32,113,543

1901		1902		1903		1904		1905	
Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.
21,736,467	34,207,965	25,017,326	39,604,007	23,724,207	39,423,525	22,432,064	36,531,608	31,030,345	49,530,677

QUANTITY OF COAL USED IN THE MANUFACTURE OF COKE IN PENNSYLVANIA AND THE UNITED STATES IN 1896 TO 1911, IN SHORT TONS-Continued.

1906		1907		1908		1909		1910		1911	
Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.
34,503,513	55,746,374	39,733,177	61,946,109	23,215,964	39,440,837	36,983,568	59,354,937	39,455,785	63,088,327	32,865,655	53,278,248

a Includes New York.
b Includes Massachusetts and New York.

TOTAL VALUE, AT OVENS, OF THE COKE MADE IN PENNSYLVANIA COMPARED WITH UNITED STATES, 1896-1911.

1896		1897		1898		1899		1900	
Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.
b$13,182,859	$21,660,729	b$13,729,966	$22,102,514	b$16,078,505	$25,586,699	c$22,881,910	$34,670,417	$29,692,258	$47,443,331

1901		1902		1903		1904		1905	
Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.
$27,066,361	$44,445,923	$38,451,722	$63,339,167	$38,969,101	$66,498,664	$25,027,462	$46,144,941	$42,253,178	$72,476,196

TOTAL VALUE AT OVENS, OF THE COKE MADE IN PENNSYLVANIA, COMPARED WITH UNITED STATES, 1896-1911—Continued.

1906		1907		1908		1909		1910		1911	
Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.	Pennsylvania.	United States.
$54,184,531	$91,608,034	$67,638,024	$111,539,126	$32,569,621	$62,483,983	$50,377,035	$89,865,483	$55,254,599	$99,742,701	$43,053,367	$84,130,849

b Includes value of New York Coke.
c Includes Massachusetts and New York.

For comparison the statistics of the condition of the establishments and ovens as regards their operation in the United States and in Pennsylvania at the close of the year 1911 are given in the following tables:

NUMBER OF COKE ESTABLISHMENTS AND OVENS IDLE, ABANDONED AND IN COURSE OF ERECTION AT THE END OF THE YEAR 1911 IN PENNSYLVANIA AND IN THE UNITED STATES.

Number of ovens idle.						Number of ovens abandoned.						Ovens building.					
Establishments.				Total number of ovens idle.		Establishments.				Total number of ovens abandoned.		Establishments.				Total number of ovens building.	
Pennsylvania.		United States.		Pennsylvania.	United States.	Pennsylvania.		United States.		Pennsylvania.	United States.	Pennsylvania.		United States.		Pennsylvania.	United States.
Establishments.	Ovens.	Establishments.	Ovens.			Establishments.	Ovens.	Establishments.	Ovens.			Establishments.	Ovens.	Establishments.	Ovens.		
66	4,816	179	15,983	17,277	40,399	10	628	18	973	1,520	2 264	3	467	8	1,117	1,271	2,254

The relative rank of the several states as regards the production of coke is given in the following table for the years 1880 to 1911:

RANK OF THE STATES IN PRODUCTION OF COKE 1880-1911.

	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895
Pennsylvania,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
West Virginia,	2	2	2	2	3	3	4	2	2	3	3	3	3	3	2	3
Alabama,	5	5	4	3	2	2	2	4	3	2	2	2	2	2	3	2
Colorado,	7	6	6	5	5	5	5	5	5	5	6	5	4	4	4	5
Tennessee,	3	3	3	4	4	4	3	3	4	4	5	4	5	5	5	4
Virginia,				8	7	7	6	6	6	6	4	6	6	6	6	6
Ohio,	4	4	5	6	8	8	8	7	8	8	8	8	8	10	8	8
Montana,					15	15			12	10	11	11	10	9	10	10
Georgia,	6	7	7	7	6	6	7	[illegible]	7	7	10	7	7	7	7	7
Kentucky,	9	10	10	11	12	13	14	[illegible]	9	12	7	10	9	8	9	9
Washington,					14	14	15	11	10	17	13	16	15	16	16	13
New Mexico,				12	9	9	10	13	14	18	9	20		18	15	14
Indian Territory,	11	11	12	13	13	12	12	14	15	15	17	13	16	15	19	16
Utah,	12		13							19	19	14	13	11	12	11
Wisconsin,									18	9	14	9	11	12	18	17
Kansas,	10	9	9	10	11	11	9	10	11	11	12	12	12	14	13	15
Indiana,							13	9	13	14	15	18	17	19	14	19
Illinois,	8	8	8	9	10	10	11	15	16	13	18	17	18	21	21	20
Missouri,								17	17	16	16	15	14	17	20	21
Massachusetts,																
Maryland,																
Michigan,																
New York,																
New Jersey,														13	11	12
Wyoming,												19		20	17	18
Texas,																22
Minnesota,																

RANK OF THE STATES IN PRODUCTION OF COKE, 1880-1911—Continued.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Pennsylvania,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
West Virginia,	2	2	2	2	2	2	3	2	3	2	2	2	2	2	2	3
Alabama,	3	3	3	3	3	3	2	3	2	3	3	3	3	3	3	2
Colorado,	4	6	5	5	5	5	5	5	5	5	5	5	5	6	6	5
Tennessee,	5	4	6	6	6	7	6	6	7	6	6	8	14	13	13	14
Virginia,	6	5	4	4	4	4	4	4	4	4	4	4	4	4	5	7
Ohio,	7	7	7	8	10	8	8	10	14	10	12	14	15	15	14	15
Montana,	8	8	8	10	11	10	13	19	20	21	22	21	21	21	22	------
Georgia,	9	9	9	11	9	11	11	14	15	18	19	18	18	18	21	21
Kentucky,	10	10	15	9	8	9	9	12	16	17	18	19	20	19	20	19
Washington,	11	13	12	14	17	14	17	18	18	20	21	20	19	20	19	20
New Mexico,	12	21	17	12	13	15	18	21	17	15	16	15	10	10	10	11
Indian Territory,	13	11	11	17	14	17	15	17	19	19	20	22	22	------	23	------
Utah,	14	15	13	16	15	12	10	9	9	11	10	12	16	16	16	17
Wisconsin,	17	16	10	13	12	13	12	13	12	12	13	7	8	8	8	9
Kansas,	18	17	18	19	19	19	19	20	22	23	23	23	23	------	24	22
Indiana,	19	18	20	21	21	------	------	25	------	------	------	------	24	22	17	9
Illinois,	20	20	19	22	22	22	22	23	23	22	14	10	9	5	4	4
Missouri,	21	19	21	20	20	21	21	24	25	25	------	------	------	------	------	------
Massachusetts,	------	------	------	7	7	6	7	7	6	7	7	9	7	9	9	10
Maryland,	------	------	------	------	------	------	------	8	8	8	9	11	11	12	12	13
Michigan,	------	------	------	------	------	20	14	11	10	9	11	13	13	11	11	12
New York,	16	12	14	15	16	16	16	16	11	14	8	6	6	7	7	8
New Jersey,	15	14	16	18	18	18	20	22	13	13	15	16	12	14	15	16
Wyoming,	------	------	------	------	------	------	------	------	24	24	24	------	------	------	------	------
Texas,	22	22	22	------	------	------	------	13	------	------	------	------	------	------	------	------
Minnesota,	------	------	------	------	------	------	------	------	21	16	17	17	17	17	18	18

The results of the compilation of the reports of the production of coke in the United States and that of Pennsylvania for the years 1900 to 1911 are shown by the following tables:

MANUFACTURE OF COKE IN UNITED STATES.

YEAR.	Establishments.	OVENS.		Coal used short tons.	Coke produced short tons.	Total value of coke at ovens.	Price of coke at ovens per ton.	Percentage yield of coal in coke.
		Built.	Building.					
1900,	396	58,484	5,804	32,113 553	20,533,348	$47,443,331	$2.31	63.9
1901,	423	63,951	5,205	34,207,965	21,795,883	44,445,923	2.04	63.7
1902,	456	69 069	8,758	39,004,007	25,401,730	63,339,167	2.49	64.1
1903,	500	79,334	6,175	39,423 525	25,274,281	66 408,064	2.63	64.1
1904,	507	83,599	4,430	36,531,608	23,661,106	46,144,941	1.95	64.8
1905,	519	87,564	4,751	49,530,677	32,231,129	72,476,196	2.25	65.1
1906,	532	93,901	4,519	55,746,374	36,401,217	91,608,034	2.52	65.3
1907,	552	99,680	2,546	61,946,109	40,779,564	111,539,126	2.74	65.8
1908,	551	101,218	2,241	39,440,837	26,033,518	62,483,983	2.40	66.0
1909,	579	103,982	2,950	59,354,937	39,315,065	89,965,483	2.29	66.2
1910,	578	104,440	2,567	63,088,327	41,708,810	99,742,701	2.39	66.1
1911,	570	103,879	2,254	53,278,248	35,551,489	84,130,849	2.37	66.7

MANUFACTURE OF COKE IN PENNSYLVANIA.

YEAR.	Establishments.	OVENS.		Coal used short tons.	Yield of coal in coke, per cent.	Coke produced short tons.	Total value of coke.	Price of coke per ton.
		Built.	Building.					
1900,	177	32,548	2,310	20,239,966	66.00	13,357,295	$29,692,258	$2.22
1901,	188	34,906	832	21,736,467	66.00	14,355,917	27,066,361	1.885
1902,	196	36,609	2,332	25,017,326	65.9	16,497,910	38,451,722	2.33
1903,	212	40,239	1,785	23,724,207	65.9	15,650,932	38,969,101	2.49
1904,	217	42,165	1,621	22,432,064	66.2	14,861,064	25,027,462	1.684
1905,	226	42,357	2,384	31,080,345	66.3	20,573,736	42,253,178	2.54
1906,	239	47,185	2,373	34,503,513	66.8	23,060,511	54,184,531	2.35
1907,	253	51,364	1,337	39,733,177	66.7	26,513,214	67,638,024	2.55
1908,	252	52,606	1,720	23,215,964	66.8	15,511,634	32,569,621	2.10
1909,	283	54,506	2,072	36,983,568	67.3	24,905,525	50,377,035	2.02
1910,	288	55 656	1,334	39,455,785	66.7	26,315,607	55,254,599	2.10
1911,	279	54,904	1,271	32,875,655	66.7	21,923,935	43,053,367	1.96

Most of the coal coked in Pennsylvania is unwashed run of mine. In the Connellsville district the coal is ideal for coke manufacture and no preparation is required for coking. A small amount is crushed before being charged. The following table gives the character of the coal used and the amount washed both in the United States and in Pennsylvania.

QUANTITY AND VALUE OF COAL USED IN THE MANUFACTURE OF COKE IN PENNSYLVANIA AND IN THE UNITED STATES, 1900-1911, IN SHORT TONS.

	Run of Mine.		Slack.		Total.		Total.	
	Unwashed.	Washed.	Unwashed.	Washed.	Unwashed.	Percentage.	Washed.	Percentage.
1900.								
Pennsylvania, .	17,692,623	647,045	1,300,796	599,502	----------	------	20,?39,936	------
United States,.	21,062,090	1,369,698	5,677,006	4,004,749	----------	------	32,113,543	------
1901.								
Pennsylvania, .	19 689 162	647,209	893.476	506,620	----------	------	21,736,467	------
United States,.	23,751,468	1,600,714	4,546,201	4,309,582	----------	------	34,207,965	------
1902.								
Pennsylvania, .	21,615,568	662,287	1,623,624	1,175,847	----------	------	25,017,326	------
United States,.	26,347,698	1,647,818	5,781,088	5,827,408	----------	------	39,604,007	------
1903.								
Pennsylvania, .	20,278,281	644 441	1,981,544	801,189	----------	------	23,706,455	------
United States,.	24,683,953	1 866,945	6,738 997	6,115 878	----------	------	39,405,773	------
1904.								
Pennsylvania, .	19,447,395	697,771	1,340,474	946,424	----------	------	22,432,064	------
United States,.	23,779,885	2,370,118	4,840,288	5,517,565	----------	------	36,531,608	------
1905.								
Pennsylvania, .	26,148,696	1,335,631	2,436,621	1,109,397	----------	------	31,030,345	------
United States,.	31,783,314	3,187,994	8,196,226	6,363,143	----------	------	49,530,677	------
1906.								
Pennsylvania, .	27,471,566	3,972,712	1,584,152	1,475,083	----------	------	34,503,513	------
United States,.	34,748,258	7,377,403	7,784,801	5,835,912	----------	------	55,746,374	------
1907.								
Pennsylvania, .	35,589,751	2,267,142	2,566 090	1,310,194	----------	------	39,733,177	------
United States,.	41,065,584	5,589,735	9,200 341	6,090,449	----------	------	61,946,109	------
1908.								
Pennsylvania, .	18,691.073	1,718,944	1,062,478	1,743,469	19,753,551	85.1	3,462,413	14.9
United States,.	25 ·65.728	3,830,879	4,966,195	5,378,035	30,231,923	76.7	9.208 914	23.3

CHARACTER OF COAL USED IN MANUFACTURE OF COKE IN PENNSYLVANIA AND IN THE UNITED STATES, 1900-1911, IN SHORT TONS—Continued.

	Run of Mine.		Slack.		Total.		Total.	
	Unwashed.	Washed.	Unwashed.	Washed.	Unwashed.	Percentage.	Washed.	Percentage.
1909.								
Pennsylvania,	31 712,482	2,278,927	1,016,576	1,975,583	32,729,058	88.5	4,251,510	11.5
United States,	40,594,842	6,007 760	6,926,484	5,825,851	47,521,326	80.1	11,833,611	19.9
1910.								
Pennsylvania,	32,688,029	2,372,115	1,275,348	3,120,293	33,963,377	86.1	5,492,408	13.9
United States,	42,554,324	5,178,915	6,842,078	8,513,010	49,396,402	78.3	13,691,925	21.7
1911.								
Pennsylvania,	27,601,050	1,958,360	1,029,149	2,287,096	28,630,199	87.1	4,245,456	12.9
United States,	36,362,875	4,918,520	5,460,689	6,536,164	41,823,564	78.5	11,454,684	21.5

Washed and unwashed are both included in washed 1900 to 1907.

There is but little difference in the average amount of coal used per ton of coke in the United States and that required in Pennsylvania. The average value of the required coal in the United States is however, about 20 per cent. higher than that for this State. The following table will show these values for the years 1900 to 1911:

QUANTITY AND VALUE OF COAL USED IN THE MANUFACTURE OF COKE IN PENNSYLVANIA AND IN THE UNITED STATES, 1900-1911, AND QUANTITY AND VALUE OF SAME PER TON OF COKE.

	Coal used. (Short tons.)	Total value of coal.	Value of coal per ton.	Quantity of coal per ton of coke (short tons).	Value of coal to a ton of coke.
1900.					
Pennsylvania,	20,239,966	$17,146,093	$ .847	1.515	$1.283
United States,	32,113,543	28,134,756	.876	1.57	1.375
1901.					
Pennsylvania,	21,736,467	19,654,216	.904	1.514	1.369
United States,	34,207,965	31,378,631	.917	1.57	1.44
1902.					
Pennsylvania,	25,017,326	24,514,119	.98	1.516	1.485
United States,	39,604,007	39,301,194	.99	1.559	1.543
1903.					
Pennsylvania,	23,706,455	24,357,521	1.027	1.516	1.557
United States,	39,405,773	42,427,922	1.077	1.56	1.68
1904.					
Pennsylvania,	22,432,064	21,459,256	.956	1.51	1.444
United States,	36,531,608	37,209,844	1.018	1.544	1.572
1905.					
Pennsylvania,	31,030,345	29,736,804	.958	1.508	1.445
United States,	49,530,677	50,614,674	1.02	1.537	1.568
1906.					
Pennsylvania,	34,503,513	35,395,374	1.025	1.496	1.533
United States,	55,746,374	62,232,524	1.116	1.531	1.709
1907.					
Pennsylvania,	39,733,177	42,732,546	1.08	1.499	1.619
United States,	61,946,109	72,784,851	1.18	1.519	1.792
1908.					
Pennsylvania,	23,215,964	23,250,885	1.001	1.497	1.498
United States,	39,440,837	45,222,474	1.15	1.515	1.742
1909.					
Pennsylvania,	36,983,568	32,065,729	.87	1.485	1.292
United States,	59,354,937	62,203,382	1.05	1.510	1.586
1910.					
Pennsylvania,	39,455,785	40,667,042	1.03	1.499	1.544
United States,	63,088,327	74,846,393	1.19	1.513	1.800
1911.					
Pennsylvania,	32,875,655	32,923,460	1.00	1.500	1.500
United States,	53,278,248	64,112,084	1.20	1.499	1.802

It has been eustomary for a number of years to divide the coke produetion of this State into well defined districts. These are based to a large extent on geographieal boundaries, but the charaeter of the eoal used and that of the coke produced are also eonsidered. The following description of the districts has been given by Mr. Parker in his report for the year 1911.

"The Allegheny Mountain district includes the ovens along the line of the Pennsylvania Railroad from Gallitzin eastward over the erest of the Alleghenies to a point beyond Altoona. The Allegheny Valley district formerly included the coke works of Armstrong and Butler eounties and one of those in Clarion County, the other ovens in the latter county being ineluded in the Reynoldsville-Walston district. All but two of the Allegheny Valley plants have been abandoned, and the production previous to 1908 has been ineluded in that of the Pittsburgh district. During 1911 but one of these plants was in operation. What was previously known as the Beaver district ineluded the ovens in Beaver and Mereer counties, but all the ovens in Beaver County have been abandoned, those formerly operated by the Semet-Solvay Company in Mercer County have been abandoned, and the operations of the one establishment of United-Otto ovens at South Sharon are now also ineluded in the Pittsburgh district. The Blossburg and the Broadtop districts embrace the Blossburg and the Broadtop coal fields. The ovens of the Clearfield-Center district are ehiefly in the two counties from whieh it derives its name. A few ovens in Elk County have been included in the Clearfield-Center district. The Connellsville district is the well-known region of western Pennsylvania in Westmoreland and Fayette counties, extending from just south of Latrobe to Fairchanee. The Lower Connellsville region is entirely in Fayette County and southwest of the Connellsville Basin proper, from which it is separated by the Greensburg anticline. It embraees the recent developments in the vicinity of Uniontown and is now the seeond producing distriet of the State. The Greensburg, Irwin, Pittsburgh, and Reynoldsville-Walston districts include the ovens near the towns which have given the names of these distriets. The Upper Connellsville district, sometimes called the Latrobe district, is near the town of Latrobe. The Semet-Solvay ovens at Chester, Steelton, and Lebanon, and the United-Otto ovens at Lebanon are in what has been designated as the Lebanon-Schuylkill district, the production of whieh has previously been combined with that of the Broad-Top district. Owing to the number of establishments being less than three in several of the distriets during 1911 the only ones for which separate statisties are published are: Allegheny Mountain, Connellsville, Greensburg, Lower Connells-

ville, Pittsburgh, Reynoldsville-Walston and Upper Connellsville districts."

The following table gives in detail the production of the several districts of Pennsylvania for the years of 1900 to 1911:

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1900

District.	Ovens.			Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
	Establishments.	Built.	Building.					
Allegheny Mountain,	14	a1,341	----	876,440	557,184	$1,260,441	$2.26	63.6
Allegheny Valley,	1	66	----	179,088	113,448	230,650	2.03	63.3
Broad Top,	6	532	d232	212,196	134,828	283,592	2.10	63.5
Clearfield-Centre,	7	568	----	14,946,659	10,020,907	22,383,432	2.23	67.0
Connellsville,	98	b20,981	686	331,305	196,709	442,704	2.25	59.4
Greensburg,	5	680	280	93,647	61,630	153,743	2.49	65.8
Irwin,	5	697	----	579,928	385,909	792,886	2.05	66.5
Lower Connellsville,	12	2,033	1,112	862,610	570,678	1,418,382	2.48	66.1
Pittsburgh,	8	c1,641	----	1,115,923	625,553	1,347,869	2.15	56.0
Reynoldsville-Walston,	7	2,010	----	1,042,170	390,449	1,378,629	1.996	66.2
Upper Connellsville,	14	1,999	----					
Total,	177	32,548	2,310	20,239,966	13,357,295	$29,692,258	$2.22	66.0

a. Includes 160 Otto-Hoffman and 8 Newton-Chambers ovens.
b. Includes 50 Semet-Solvay ovens.
c. Includes 120 Otto-Hoffman and 25 Semet-Solvay ovens.
d. Otto-Hoffman ovens at Lebanon.

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1901

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	a16	b1,378	----------	864,133	548,076	$1,126,682	$2.03	63.4
Broad Top,	6	571	e232	187,715	118,949	237,898	2.00	63.4
Clearfield-Centre,	8	636	----------	134,913	86,242	157,648	1.828	63.9
Connellsville,	96	e21,586	243	15,266,722	10,235,943	19,172,697	1.873	67.0
Greensburg,	6	991	----------	406,957	257,785	464,692	1.80	63.3
Irwin,	6	750	----------	30,699	19,977	32,562	1.63	65.0
Lower Connellsville,	17	3,251	30	1,666,826	1,116,379	1,991,699	1.784	66.9
Pittsburgh,	20	d1,651	f227	1,266,947	813,478	1,690,614	2.078	64.2
Reynoldsville-Walston,	7	2,010	----------	1,059,107	589,577	1,171,878	1.988	55.7
Upper Connellsville,	16	2,082	100	852,448	569,511	1,033,991	1.815	66.8
Total,	188	34,906	832	21,736,467	14,355,917	$27,066,361	$1.885	66.0

a. One establishment made coke in open rieks, not ovens.
b. Ineludes 160 Otto-Hoffman and 8 Newton-Chambers ovens.
e. Ineludes 50 Sewet-Solvay ovens.
d. Ineludes 120 Otto-Hoffman ovens and 25 Semet-Solvay ovens.
e. Otto-Hoffman ovens at Lebanon.
f. Includes 212 Sehneiwind by-produets ovens.

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.
1902

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	36	a1,563	b380	965,412	644,053	$1,782,660	$2,768	66.7
Allegheny Valley,	2	20	20					
Broad Top,	5	571	3	281,320	175,808	594,521	3.38	62.5
Clearfield-Centre,	8	d623		308,289	198,725	489,637	2.46	64.5
Connelsville,	97	e21,659	f374	15,538,701	10,418,366	23,785,433	2.283	67.5
Greensburg,	7	1,240	193	725,744	441,941	1,228,576	2.78	60.9
Irwin.	6	691		217,404	139,299	329,410	2.36	64.1
Lebanon Valley,	2	g237	j40					
Lower Connellsville,	21	4,253	705	2,826,242	1,899,111	4,701,068	2.475	67.2
Pittsburgh,	8	I 1,591	k212	1,488,973	953,863	1,924,942	2.018	64.1
Reynoldsville-Walston,	7	2,029		1,251,765	689,890	1,422,143	2.06	55.1
Upper Connellsville,	17	2,132	405	1,413,476	936,854	2,193,332	2.34	66.3
Total,	196	36,609	2,332	25,017,326	16,497,916	$38,451,722	$2.33	65.9

a. Includes 160 Otto Hoffman and 8 Newton-Chambers ovens.
b. Includes 100 Otto-Hoffman ovens.
c. Production included in Pittsburgh district.
d. Includes 87 ovens and production in Elk County.
e. Includes 50 Semet-Solvay ovens.
f. Includes 60 Semet-Solvay ovens.
g. Otto-Hoffman ovens.
h. Includes production of ovens in Allegheny Valley district.
i. Includes 120 Otto-Hoffman and 25 Semet-Solvay ovens.
j. Semet-Solvay ovens at Chester in Eastern Pennsylvania.
k. Schniewind ovens at Lebanon.

COKE PRODUCTION IN PENNSYL VANIA IN 1900-1911, BY DISTRICTS.

1903

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton..	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	16	a20,047	b100	1,116,345	739,263	$2,139,569	$2.89	66.2
Allegheny Valley,	2	51						
Broad Top,	5	571		351,507	244,898	748,920	3.06	69.6
Clearfield-Centre.								
Elk,	8	650		260,577	166,355	544,865	3.275	63.8
Connellsville,	101	e22,824	f330	13,493,631	9,099,100	20,706 722	2.275	67.4
Greensburg,	8	1,332		813,216	451,385	1,477,134	3.27	55.5
Irwin,	6	691		207,067	133,290	334,434	2.51	64.4
Lebanon,								
Schuylkill	3	g237	h130					
Lower Connellsville,	31	5,595	586	3,457,796	2,332,589	5,523,604	2.368	67.4
Pittsburgh,	7	j1,585	k359	1,404,660	877,640	2,632,827	3.00	62.5
Reynoldsville-Walston,	7	2,003		1,420,709	810,359	2,688,472	3.32	57.4
Upper Connellsville,	18	2,506	280	1,180,947	784,132	2,133,513	2.72	66.4
Total,	212	40,092	1.785	23 706,455	15,639,011	$38,930,060	$2.49	65.9

a. Includes 160 Otto-Hoffman ovens.
b. Includes 100 Otto Hoffman ovens.
c. Production included in Pittsburgh district.
d. Includes production in Lebanon and Schuylkill Valleys.
e. Includes 80 Semet-Solvay ovens.
f. Includes 30 Semet-Solvay ovens.
g. Otto-Hoffman ovens.
h. Semet-Solvay ovens.
i. Includes production of ovens in Allegheny Valley district
j. Includes 120 Otto-Hoffman and 78 Semet-Solvay ovens.
k. Includes 159 Semet-Solvay ovens.

COKE PRODUCTION IN PENNSYL VANIA IN 1900-1911, BY DISTRICTS.

1904

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	17	a2,153	100	785,105	551,570	$1,152,101	$2.09	70.3
Allegheny Valley,	b2	53						
Broad Top,	c5	606		358,807	237,639	645,045	2.71	66.2
Clearfield-Centre,	9	828		61,564	35,931	79,746	2.22	58.4
Connellsville,	101	d22,695	1,044	13,185,690	8,883,220	13,990,329	1.575	67.4
Greensburg,	7	1,332		511,303	314,954	551,228	1.75	61.6
Irwin,	6	691		14,468	8,793	14,576	1.66	60.8
Lebanon & Schuylkill,	3	e334						
Lower Connellsville,	34	6,570	250	4,229,755	2,887,456	4,623,133	1.60	68.2
Pittsburgh,	f6	g2,142		1,370,629	841,459	1,795,257	2.13	61.4
Reynoldsville-Walston,	8	2,101	200	1,313,507	709,502	1,585,950	2.235	54.0
Upper Connellsville,	19	2,660	27	601,236	399,540	590,097	1.51	64.9
Total,	217	42,165	1,621	22,432,064	14,861,064	$25,027,462	$1.684	66.2

a. Includes 260 Otto-Hoffman ovens.
b. Production included in Pittsburgh district.
c. Includes production in Lebanon and Schuylkill Valleys.
d. Includes 110 Semet-Solvay ovens.
e. Includes 130 Semet-Solvay, 4 Rothberg and 200 Otto-Hoffman ovens.
f. Includes production of ovens in Allegheny Valley district.
g. Includes 332 Otto-Hoffman and 25 Semet-Solvay ovens.

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1905

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	17	a2,245	b142	1,406,540	967,042	$2,421,799	$2.50	68.7
Allegheny Valley,	c2	53						
Broad Top,	d5	614		687,954	483,198	1,544,966	3,197	70.2
Clearfield-Centre,	8	648		182,659	119,651	273,028	2.28	65.5
Connellsville,	100	c22,033	200	16,980,341	11,365,077	22,315,361	1.963	66.9
Greensburg,	7	1,328	100	908,003	551,233	1,155,958	2.006	60.7
Irwin,	5	680	27	258,039	164,601	325,746	1.98	63.8
Lebanon & Schuylkill,	4	f362	160					
Lower Connellsville,	45	7,484	1,145	5,666,812	3,871,310	7,532,382	1.945	68.3
Pittsburgh,	g6	h2,173	200	2,317,159	1,463,774	3,599,436	2.459	63.2
Reynoldsville-Walston,	8	2,303	200	1,463,680	831,904	1,638,934	1.97	56.8
Upper Connellsville,	19	2,685	30	1,159,158	755,946	1,445,568	1.91	65.2
Total,	226	42,608	2,384	31,030,345	20,573,736	$42,253,178	$2.054	66.3

a. Includes 260 Otto-Hoffman ovens.
b. Includes 112 Otto-Hoffman ovens.
c. Production included in Pittsburgh district.
d. Includes production in Lebanon and Schuylkill Valleys.
e. Includes 110 Semet-Solvay ovens.
f. Includes 130 Semet-Solvay and 232 Otto-Hoffman ovens.
g. Includes production of ovens in Allegheny Valley district.
h. Includes 332 Otto-Hoffman and 25 Semet-Solvay ovens.

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1906

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	16	a2,137	b137	1,271,710	893,271	$2 552,967	$2.85	70.2
Allegheny Valley,	c2	50						
Broad Top,	d5	584		978,993	710,143	2,824,343	3.98	72.5
Clearfield Centre,	7	738		91,822	56,634	162,722	2.87	61.6
Connellsville,	101	e23,616	142	17,956,160	12,057,840	26,858,660	2.23	67.1
Greensburg,	8	1,428	260	1,118 227	678,817	1,641,473	2.42	60.7
Irwin,	5	581		348,007	230,552	510,572	2.21	66.2
Lebanon & Schuylkill,	d4	f507		d	d	d	d	d
Lower Connellsville,	53	9,708	1,502	7,465,205	5,188,135	12,046,889	2.32	69.4
Pittsburgh,	g8	h2,818		2,376,403	1,463,795	3,620,030	2.47	61.5
Reynoldsville-Walston,	8	2,502		1,399,801	770,095	1,794,127	2.33	55.8
Upper Connellsville,	22	2,516	332	1,497,285	1,011,229	2,172,748	2.15	67.5
Total	239	47,185	2,373	34,503,513	23,060,511	$54,184,531	$2.35	66.8

a. Includes 260 Otto-Hoffman ovens.
b. Includes 112 Otto-Hoffman ovens.
c. Production included in Pittsburgh district.
d. Production in Lebanon and Schuylkill Valleys included in Broad Top district.
e. Includes 110 Semet-Solvay ovens.
f. Includes 275 Semet Solvay and 232 Otto-Hoffman ovens.
g. Includes production of ovens in Allegheny Valley district.
h. Includes 330 Otto-Hoffman ovens and 25 Semet-Solvay ovens.

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1907

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	17	a2,424		1,753,002	1,209,592	$3,564,117	$2.95	69.0
Allegheny Valley,	b2	50						
Broad Top,	c6	634	46	1,547,741	1,154,874	4,977,142	4.31	74.6
Clearfield Centre,	7	706		115,388	74,187	191,378	2.58	64.3
Connellsville,	101	d23,857		19,751,739	13,089,427	30,355,050	2.32	66.3
Greensburg,	8	1,735		1,206,981	798,003	2,273,078	2.85	66.1
Irwin,	5	572		315,601	210,393	492,304	2.34	66.7
Lebanon & Schuylkill,	4	e482						
Lower Connellsville,	62	12,264	1,068	9,150,693	6,310,900	15,758,049	2.50	69.0
Pittsburgh,	f10	g3,135		2,807,931	1,764,747	5,183,156	2.94	62.9
Reynoldsville-Walston,	9	2,781		1,526,123	870,831	2,386,678	2.74	57.1
Upper Connellsville,	22	2,724	223	1,557,978	1,030,260	2,457,072	2.38	66.1
Total,	253	51,364	1,337	39,733,177	26,513,214	$67,638,024	$2.55	66.7

a. Includes 372 United Otto and 152 Newton-Chambers ovens.
b. Production included in Pittsburgh district.
c. Production of Lebanon and Schuylkill Valleys included in Broad top district.
d. Includes 110 Semet-Solvay ovens.
e. Includes 250 Semet-Solvay and 232 United Otto ovens.
f. Includes production of ovens in Allegheny Valley district.
g. Includes 330 United Otto and 25 Semet-Solvay ovens.

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1908

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	16	a2,394	99	1,208.221	859,648	$2,055,779	$2.39	71.1
Broad Top,	6	680	30	198,798	125,722	235,382	1.87	63.2
Connellsville,	104	b24,071	118	10,238,665	6,880,951	14,025,422	2.04	67.2
Greensburg,	7	1,690	60	1,119,391	694,032	1,489,303	2.15	62.0
Lower Connellsville,	62	13,162	d1,203	6,156,553	4,252,222	7,796,860	1.83	69.1
Pittsburgh,	9	e3,110	150	1,742,199	1,103,413	2,592,403	2.35	63.3
Reynoldsville-Walston,	9	2,781	----------	1,198,938	655,312	1,649,541	2.50	54.7
Upper Connellsville,	22	2,906	60	779,468	514,515	897,631	1.74	66.0
Other Districts,	f17	11,812	----------	573,811	425,809	1,827,300	4.29	74.2
Total,	252	52,606	1,720	23,215,964	15,511,634	$32,569,621	$2.10	66.8

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1909

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	23	a2,581		1,619,634	1,156,554	2,327,353	$2.01	71.4
Broad Top,	2	52						
Connellsville,	117	b24,422	h370	17,581,899	11,769,758	23,379,149	1.99	66.9
Greenburg,	7	1,751	i246	1,443,394	926,568	1,816,829	1.97	64.2
Lower Connellsville,	70	j14,215	k1,086	9,781,803	6,761,335	12,490,518	1.85	60.1
Pittsburgh,	11	c3,299	420	2,826,164	1,757,338	4,444,243	2.53	62.2
Reynoldsville-Walston,	9	2,781		1,151,530	702,136	1,587,385	2.26	61.0
Upper Connellsville,	22	12,915		1,282,756	863,769	1,525,011	1.77	67.3
Other Districts,	m22	n2,490		1,206,388	968,067	2,807,347	2.90	74.7
Total,	283	54,506	2,072	36,983,568	24,905,525	50,377,035	$2.02	67.3

a. Includes 372 United-Otto and 152 Newton-Chambers ovens.
b. Includes 110 Semet-Solvay ovens.
c. Includes 149 rectangular ovens.
d. Includes 249 rectangular ovens.
e Includes 530 United Otto and 10 rectangular ovens.
f. Includes Allegheny Valley, Clearfield, Centre, Irwin and Lebanon and Schuylkill Valleys districts.
g. Includes 232 United Otto and 250 Semet-Solvay ovens.
h. Includes 100 rectangular ovens.
i. Includes 60 rectangular ovens.
j. Includes 775 rectangular ovens.
k. Includes 583 rectangular ovens.
l. Includes 79 rectangular ovens.
m. Includes Broad Top, Clearfield-Centre, Irwin and Lebanon and Schuylkill Valleys districts
n. Includes 250 Semet-Solvay and 232 United-Otto ovens.

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1910

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	25	a2,523	----------	1,431,309	1,016,487	$2,533,826	$2.49	71.0
Allegheny Valley,	2	52	----------	----------	----------	----------	----------	----------
Connellsville,	118	b24,481	c206	17,205,615	11,459,601	23,121,556	2.02	66.6
Greensburg,	6	1,940	d100	1,503,241	953,188	2,009,093	2.11	63.4
Lower Connellsville,	73	e14,805	f668	12,130,425	8,219,492	16,048,675	1.95	67.8
Pittsburgh,	13	g3,734	----------	3,388,964	2,151,889	5,313,119	2.47	63.5
Reynoldsville-Walston,	9	2,781	----------	1,483,645	870,046	1,972,927	2.27	58.7
Upper Connellsville,	21	h2,850	i60	780 888	504,876	956,422	1.89	64.7
Other Districts,	j21	k2,490	l300	1,531,698	1,140,028	3,298,981	2.89	74.4
Total,	288	55,656	1,334	39,455,785	26,315,607	$55,254,599	$2.10	66.7

COKE PRODUCTION IN PENNSYLVANIA IN 1900-1911, BY DISTRICTS.

1911

District.	Establishments.	Ovens.		Coal used, short ton.	Coke produced, short ton.	Total value of coke at ovens.	Value of coke per ton.	Yield of coal in coke (per cent).
		Built.	Building.					
Allegheny Mountain,	25	a2,475	----------	1,182,516	826,726	$2,037,953	$2.47	69.9
Connellsville,	112	m23,879	227	14,420,378	9,565,013	18 471,506	1.93	66.3
Greenburg,	7	n2 040	----------	1,142,361	747,654	1,451,130	1.94	65.4
Lower Connellsville,	71	o14,857	p654	10,771,495	7,354,736	12,998,192	1.77	68.3
Pittsburgh,	12	q3,737	----------	2,322,422	1,449,934	3,228,508	2.23	62.4
Reynoldsville-Walston,	10	r2,881	----------	1,427,896	818,942	1,839,344	2.25	57.3
Upper Connellsville,	21	h2,819	s60	514,186	330,886	576,860	1.74	64.4
Other Districts,	t21	u2,216	v330	1,094,451	830,044	2,449,874	2.95	75.8
Total,	279	54,904	1,271	32,875,655	21,923,935	$43,053,367	$1.96	66.7

a. Includes 372 United-Otto and 152 Newton-Chambers ovens.
b. Includes 110 Semet-Solvay and 630 rectangular ovens.
c. Includes 52 rectangular ovens.
d. Rectangular ovens.
e. Includes 1,237 rectangular ovens.
f. Includes 400 rectangular ovens.
g. Includes 332 United-Otto and 310 rectangular ovens.
h. Includes 129 rectangular ovens.
i. Rectangular ovens.
j. Includes the Broad Top, Clearfield-Centre, Irwin and Lebanon and Schuylkill Valley Districts.
k. Includes 232 United-Otto and 250 Semet-Solvay ovens.
l. Didier ovens.
m. Includes 110 Semet-Solvay and 711 rectangular ovens.
n. Includes 100 Belgian ovens.
o. Includes 1,724 rectangular ovens.
p. Includes 204 rectangular ovens.
q. Includes 10 rectangular, 332 United-Otto, 160 waste-heat and 300 Belgian.
r. Includes 11 Ramsey ovens.
s. Belgian ovens.
t. Includes the Allegheny Valley, Broad Top, Clearfield-Centre, Irwin and Schuylkill Valley Districts.
u. Includes 250 Semet-Solvay and 228 United-Otto ovens.
v. Includes 200 Didier ovens.

THE CONNELLSVILLE AND LOWER CONNELLSVILLE DISTRICTS.

The Connellsville District is the largest coke producing district in the world. Up to the year 1903 this district produced about one-half of the coke made in the United States. The smaller portion produced since that time is due to the largely increased output from the Lower Connellsville District which is separated from the Connellsville Basin proper by the Greensburg anticline.

During 1911, 8,162 ovens were out of blast in this district. The 15,717 operating ovens produced 9,565,013 short tons of coke, an average output of 609 tons per oven. In 1910 the average output of ovens in the Connellsville district was 475 tons. There was a decreased output in 1911 of 1,804,588 tons, or 16.5 per cent., and a decrease in value of $4,650,506 or 20 per cent. The average price decreased from $2.02 in 1910 to $1.93 in 1911, the lowest price since 1904. This is slightly lower than the average price in the State, but the price at the ovens in this District cannot properly be compared with that of coke made at the several retort oven plants, where the value of coal used embraces freight charges, not included in the cost of coal in the Connellsville region.

The following table gives the statistics of production in the Connellsville District for the years 1880, 1890, 1900, 1906 to 1911.

STATISTICS OF THE MANUFACTURE OF COKE IN THE CONNELLSVILLE REGION OF PENNSYLVANIA, 1880-1911.

YEAR	Establishments.	OVENS.		Coke produced short tons.	Coal used short tons.	Total value of coke at ovens.	Value of coke at ovens per ton.	Yield of coal in coke, per cent.
		Built.	Building.					
1880, ----------	67	7,211	731	3,367,856	2,205,946	$3,948,643	$1.79	65.5
1890, ----------	28	15,865	30	9,748,449	6,464,156	11,537,370	1.94	66.3
1900, ----------	98	20,981	686	14,946,659	10,020,907	22,283,432	2.23	67.0
1906, ----------	101	23,616	142	17,956,160	12,057,840	26,858,600	2.23	67.1
1907, ----------	101	23,857	----------	19,751,739	13,089,427	30,355,050	2.32	66.3
1908, ----------	104	24,071	118	10,238,665	6,880,951	14,025,422	2.04	67.2
1909, ----------	117	24,422	370	17,581,899	11,769,758	23,379,149	1.99	66.9
1910, ----------	118	24,481	206	17,205,615	11,459,601	23,121,556	2.02	66.6
1911, ----------	112	a23,879	227	14,420,328	9,565,013	18,471,506	1.93	66.3

a Includes 110 Semet-Solvay by-product ovens.

The Lower Connellsville District was opened up in 1900, and, although but 11 years old, is the second coke producing district in the United States.

The production of the Lower Connellsville District in 1911 was 846,756 tons or 10.5 per cent. less than in 1910 and the value fell $305,483 or 19 per cent. The average price fell from $1.95 to $1.77. There were 12,033 ovens in operation producing an average of 611 tons per oven.

The following table shows the details of the production of the Lower Connellsville District for the year 1900, 1905 to 1911.

STATISTICS OF THE MANUFACTURE OF COKE IN THE LOWER CONNELLSVILLE DISTRICT OF PENNSYLVANIA, 1900-1905-1911.

YEAR	Establishments.	OVEN		Coal used short tons.	Coke produced short tons.	Total value of coke at ovens.	Value of coke at ovens per ton.	Yield of coal in coke, per cent.
		Built.	Building.					
1900,	12	2,033	1,112	579,928	385,909	792,886	2.05	66.5
1905,	45	7,484	1,145	5,666,812	3,871,310	7,532,382	1.95	68.3
1906,	53	9 708	1,502	7,465,205	5,188,135	12,046,889	2.32	69.4
1907,	62	12,264	1,068	9,150,693	6,310,900	15,758,049	2.50	69.0
1908,	62	13,162	1,203	6,156,553	4,252,222	7,796,860	1.83	69.1
1909	70	14,215	1,026	9,781,803	6,761,335	12,490,518	1.85	69.1
1910,	73	a14,805	b668	12,130,425	8,219,492	16,048,675	1.95	67.8
1911,	71	c14,857	d654	10,771,495	7,354,736	12,998,192	1.77	68.3

a Includes 1,237 rectangular ovens.
b Includes 400 rectangular ovens.
c Includes 1,724 rectangular ovens.
d Includes 200 rectangular ovens.

It is not practicable to separate many of the figures relating to the production of these two districts, which are so intimately related and connected by the lines of transportation.

Connellsville coke is the recognized standard for the United States and the prices in that region greatly govern those of other districts. The following table gives the average prices for strictly "Connellsville Coke" as compiled by the Iron Age and given in the several reports on the Mineral Resources of the United States:

PRICES OF CONNELLSVILLE FURNACE AND FOUNDRY COKE, 1900-1911, BY MONTHS, FURNACE COKE.

MONTH.	Coke.	Contract price.	For prompt delivery.	Six months contract.	Prompt delivery.	Contract.
	1900.	1901.	1902.	1903.		1904.	
January,	$2.57 to $3.50	$1.75	$2.25	$2.50 to $3.50	$3.75 to $4.00	$6.00 to $7.00	$1.60 to $1.65
February,	2.75 to 3.50	1.75	2.25	2.50 to 3.00	3.50 to 4.00	4.50 to 5.50	1.50 to 1.65
March,	3.25 to 4.25	1.75 to 2.00	2.25	2.50 to 3.00	3.50 to 4.00	5.00 to 5.50	1.60 to 1.75
April,	3.24 to 4.25	2.00	2.25 to 2.50	2.50 to 3.00	3.75 to 4.00	4.50 to 5.00	1.60 to 1.65
May,	3.00 to 3.25	2.00	2.25 to 2.50	----------	3.00 to 3.50	3.50 to 4.00	1.60 to 1.65
June,	2.50 to 3.00	1.75 to 2.00	2.25 to 2.50	2.50 to 3.50	2.75 to 3.00	2.75 to 3.50	1.40 to 1.65
July,	2.00 to 2.50	1.75 to 2.00	2.25	3.00 to 4.00	2.50	2.50	1.40 to 1.50
August,	2.00	1.75 to 2.00	2.25	3.50 to 4.00	2.25 to 2.50	2.00 to 2.50	1.45 to 1.50
September,	2.00	1.75 to 2.00	3.00	4.00 to 5.00	2.25 to 2.50	2.00 to 2.50	1.40 to 1.50
October,	2.00	1.75 to 2.00	3.50 to 4.00	8.00 to 12.00	2.00 to 2.10	1.75 to 2.10	1.45 to 1.65
November,	2.00	1.85 to 2.00	3.50 to 4.00	7.00 to 8.00	----------	1.65 to 2.00	1.75 to 2.15
December,	1.75 to 2.00	2.10 to 2.25	3.75 to 4.00	7.00 to 8.00	----------	1.65 to 1.75	2.10 to 2.45

PRICES OF CONNELLSVILLE FURNACE AND FOUNDRY COKE, 1900-1911, BY MONTHS, FURNACE COKE.—Continued.

	1905.	1906.	1907.	1908.	1909.	1910.	1911. Spot.	1911. Contract.
January,	$2.10 to $3.00	$2.15 to $2.75	$3.50 to $3.75	$1.90 to $2.25	$1.50 to $2.00	$2.50 to $2.75	$1.40 to $1.55	$1.70 to $2.00
February,	2.00 to 2.77	2.10 to 2.50	3.50 to 3.65	1.70 to 2.25	1.50 to 1.65	1.75 to 2.60	1.45 to 1.55	1.70 to 1.75
March,	2.25 to 2.50	2.20 to 2.50	2.90 to 3.25	1.80 to 1.85	1.55 to 2.00	2.10 to 2.60	1.50 to 1.65	1.70 to 2.00
April,	1.90 to 2.25	2.30 to 2.75	2.65 to 2.85	1.50 to 1.60	1.60 to 1.85	1.75 to 2.15	1.60 to 1.65	1.80 to 2.00
May,	1.80 to 2.00	2.30 to 2.75	2.00 to 2.85	1.50 to 1.60	1.50 to 1.90	1.65 to 2.00	1.50 to 1.65	1.75 to 1.85
June,	1.75 to 2.10	2.30 to 2.50	1.75 to 2.65	1.50 to 1.60	1.50 to 1.75	1.65 to 1.85	1.40 to 1.50	1.55 to 1.85
July,	1.75 to 2.10	2.40 to 2.75	2.40 to 2.60	1.50 to 1.60	1.60 to 1.80	1.60 to 1.85	1.45 to 1.55	1.55 to 1.75
August,	1.80 to 2.10	2.75 to 2.85	2.40 to 2.85	1.50 to 1.55	1.65 to 2.00	1.60 to 1.85	1.45 to 1.55	1.60 to 1.65
September,	1.90 to 2.50	2.85 to 2.90	2.75 to 2.90	1.50 to 1.55	2.00 to 3.00	1.60 to 1.80	1.50 to 1.55	1.60 to 1.70
October,	2.35 to 3.10	2.75 to 3.25	2.75 to 3.00	1.50 to 1.65	2.75 to 3.00	1.55 to 1.75	1.50 to 1.55	1.55 to 1.70
November,	2.85 to 3.00	3.00 to 3.60	2.00 to 2.75	1.65 to 1.65	2.75 to 2.90	1.45 to 1.75	1.50 to 1.55	1.50 to 1.75
December,	2.75 to 2.90	3.00 to 3.60	2.00 to 2.50	1.75 to 1.90	2.60 to 2.90	1.40 to 1.80	1.50 to 1.80	1.60 to 1.75

PRICES OF CONNELLSVILLE FURNACE AND FOUNDRY COKE, 1900-1911, BY MONTHS, FURNACE COKE.—Continued.

MONTH.		Contract price.	For prompt delivery.	Six months contract.	Prompt delivery.	
	1900.	1901.	a1902.		1903.a	1903.b	1904.
January,	$3.00 to $4.00	$2.00 to $2.25	$2.75 to $3.00		$4.75 to $5.00	$6.00 to $7.50	$2.10 to $2.50
February,	3.00 to 4.00	2.25	2.75 to 3.00		c	6.00 to 7.00	2.10 to 2.25
March,	3.75 to 4.50	2.50	2.75 to 3.00		c	6.00 to 7.00	2.10 to 2.50
April,	3.25 to 4.50	2.50	2.75 to 3.00		5.00	5.50 to 6.00	2.15 to 2.50
May,	3.00 to 3.50	2.50	2.75 to 3.00		4.00	4.00 to 5.50	2.00 to 2.15
June,	3.00 to 3.25	2.25 to 2.50	2.75 to 3.00		3.25 to 4.00	3.50 to 4.00	1.80 to 2.00
July,	2.75 to 3.00	2.25 to 2.50	2.75 to 3.00		3.00 to 3.25	3.00 to 3.50	1.75 to 1.85
August,	2.75	2.25 to 2.50	2.75 to 3.00		3.00	3.00	1.75 to 1.85
September,	2.25 to 2.50	2.25 to 2.50	4.00 to 4.50		2.75 to 3.00	2.75 to 3.00	1.75 to 2.00
October,	2.25 to 2.50	2.25 to 2.50	4.50 to 5.00		2.75 to 3.00	2.75 to 3.00	1.80 to 2.25
November,	2.25 to 2.50	2.25 to 2.50	4.50 to 5.00			2.50 to 2.65	2.25 to 2.50
December,	2.25 to 2.50	2.35 to 2.50	4.50 to 5.00			2.15 to 2.50	2.25 to 2.50

PRICES OF CONNELLSVILLE FURNACE AND FOUNDRY COKE, 1900-1911, BY MONTHS, FURNACE COKE.—Continued.

	1905.	1906.	1907.	1908.	1909.	1910.	1911. Spot.	1911. Contract.
January,	$2.25 to $2.75	$2.75 to $3.50	$4.00 to $4.50	$2.00 to $2.65	$2.00 to $2.50	$2.85 to $3.25	$1.90 to $2.50	$2.25 to $2.50
February,	2.50 to 3.00	2.50 to 3.00	3.75 to 4.50	2.40 to 2.75	1.85 to 2.25	2.50 to 3.00	2.10 to 2.50	2.25 to 2.50
March,	2.75 to 3.25	2.75 to 3.25	3.50 to 4.00	2.10 to 2.40	1.85 to 2.25	2.60 to 3.15	2.00 to 2.50	2.25 to 2.40
April,	2.65 to 3.00	2.90 to 3.10	3.25 to 3.75	1.85 to 2.25	1.75 to 2.40	2.50 to 3.00	2.00 to 2.00	2.25 to 2.40
May,	2.50 to 2.75	2.65 to 3.10	2.75 to 3.25	2.00 to 2.25	1.80 to 2.35	2.15 to 2.75	1.75 to 2.00	2.10 to 2.40
June,	2.25 to 2.65	2.65 to 2.75	3.00 to 3.25	2.00 to 2.25	1.80 to 2.50	2.15 to 2.50	1.75 to 2.00	2.00 to 2.40
July,	2.25 to 2.50	2.75 to 3.00	3.00 to 3.25	2.00 to 2.25	1.80 to 2.50	2.15 to 2.50	1.85 to 2.00	2.10 to 2.40
August,	2.25 to 2.50	3.00 to 3.25	3.00 to 3.75	1.90 to 2.25	1.70 to 2.50	2.15 to 2.50	1.95 to 2.00	2.00 to 2.50
September,	2.40 to 3.00	3.25 to 3.50	3.15 to 3.50	1.90 to 2.00	2.25 to 3.25	2.10 to 2.50	1.85 to 2.00	2.10 to 2.40
October,	2.75 to 3.50	3.25 to 4.00	3.25 to 3.40	2.00 to 2.25	2.75 to 3.50	2.15 to 2.50	1.85 to 2.00	2.10 to 2.40
November,	3.50 to 4.00	3.75 to 4.50	2.50 to 3.00	2.15 to 2.25	3.00 to 3.50	2.00 to 2.50	1.85 to 2.00	2.10 to 2.40
December,	3.40 to 4.00	3.75 to 4.50	2.50 to 2.75	2.15 to 2.25	3.25 to 3.50	1.90 to 2.50	1.90 to 2.00	2.10 to 2.25

a. Contract prices.
b. Prompt delivery.
c. No contract prices quoted.

The following table taken from the several reports of the United States Geological Survey were originally compiled by the Connellsville Courier, of Connellsville, Pennsylvania. These figures differ slightly from those reported to the Survey by the several operators, being about 3.5 per cent. below those reported for 1911. The difference does not affect the value of the tables for comparative study.

MONTHLY SHIPMENTS OF COKE FROM THE CONNELLSVILLE AND LOWER CONNELLSVILLE REGION, 1897 TO 1911, IN SHORT TONS.

MONTH.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
January,	485,624	727,739	779,792	1,001,882	989,367	1,173,860	1,134,272
February,	466,206	687,287	699,474	910,720	939,756	971,048	968,981
March,	521,484	744,987	839,763	1,044,588	1,150,734	1,133,978	1,274,863
April,	493,027	701,317	831,964	982,551	1,070,708	1,219,928	1,346,053
May,	501,857	680,754	804,023	934,186	1,084,458	1,300,648	1,288,550
June,	500,483	636,877	837,123	872,316	1,075,000	1,234,596	1,379,257
July,	583,867	646,065	883,735	732,981	1,046,996	1,271,045	1,327,239
August,	562,703	662,880	889,078	698,065	1,099,417	1,238,260	1,211,826
September,	625,902	644,422	813,190	673,336	1,011,439	1,246,095	1,239,265
October,	737,498	731,602	874,357	734,748	1,128,183	1,230,860	1,041,966
November,	700,352	844,907	935,608	751,443	1,070,204	1,079,937	629,768
December,	736,049	771,275	941,657	829,409	943,687	1,039,385	513,187
Total,	6,915,052	8,460,112	10,129,764	10,166,234	12,609,949	14,138,740	13,345,230

MONTHLY SHIPMENTS OF COKE FROM THE CONNELLSVILLE AND LOWER CONNE. ILLE REGION. 1897 TO 1911, IN SHORT TONS.—Continued.

MONTH.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
January,	718,382	1,283,152	1,665,747	1,698,475	742,096	1,205,650	1,952,406	1,194,047
February,	845,428	1,350,128	1,435,452	1,625,783	810,436	1,143,487	1,787,164	1,302,098
March,	1,062,192	1,497,756	1,683,212	1,701,342	841,059	1,185,814	1,922,575	1,621,301
April,	1,118,043	1,843,502	1,604,906	1,708,590	772,915	1,144,751	1,754,654	1,419,369
May,	1,146,907	1,451,554	1,739,743	1,787,611	759,813	1,235,044	1,527,515	1,343,879
June,	945,520	1,354,470	1,654,209	1,677,488	772,367	1,429,289	1,544,964	1,299,295
July,	887,402	1,622,998	1,662,545	1,741,612	856,843	1,605,937	1,446,294	1,257,820
August,	975,724	1,328,002	1,685,036	1,787,190	952,492	1,641,287	1,464,060	1,355,774
September,	1,153,471	1,726,734	1,610,509	1,650,207	975,606	1,704,919	1,390,140	1,394,752
October,	1,148,089	1,430,238	1,850,450	1,805,307	1,030,552	1,821,444	1,460,717	1,424,232
November,	1,207,131	1,488,942	1,752,234	1,167,796	995,807	1,835,745	1,252,797	1,385,627
December,	1,219,174	1,519,050	1,655,283	667,607	1,190,036	1,832,465	1,196,436	1,335,974
Total,	12,427,463	17,896,526	19,999,326	19,029,058	10,700,022	17,785,832	18,689,722	16,334 168

TOTAL AND DAILY SHIPMENTS OF COKE FROM THE CONNELLSVILLE AND LOWER CONNELLSVILLE DISTRICTS, IN CARS, 1888-1911.

Year.	Daily average.	Total cars.	Year.	Daily average.	Total cars.	Year.	Daily average.	Total cars.
1888, ----------	1,905	282,441	1896,----	1,920	289,137	1904,----	1,623	510,759
1889, ----------	1,046	326,220	1897,----	1,181	367,383	1905,----	1,886	688,328
1890, ----------	1,147	355,070	1898,----	1,415	441,249	1906,----	2,385	745,274
1891, ----------	884	274,000	1899,----	1,676	523,203	1907,----	2,210	691,757
1892, ----------	1,106	347,012	1900,----	1,619	504,410	1908,----	1,173	368,222
1893, ----------	874	270,980	1901,----	1,857	581,051	1909,----	1,920	600,979
1894, ----------	1,900	281,677	1902,----	1,986	624,198	1910,----	1,640	593,706
1895, ----------	1,410	441,243	1903,----	1,782	558,738	1911,----	1,339	448,672

SHIPMENTS OF COKE FROM THE CONNELLSVILLE REGION, INCLUDING THE LOWER CONNELLSVILLE DISTRICT, IN 1901-1911, BY MONTHS.

MONTH.	1901.			1902.			1903.			1904.		
	Cars.	Daily average.	Short tons.	Cars.	Daily average.	Short tons.	Cars.	Daily average.	Short tons.	Cars.	Daily average.	Short tons.
January,	46,873	1,736	989,367	51,986	1,925	1,173,860	47,626	1,764	1,134,272	30,077	1,157	718,382
February,	44,186	1,841	939,756	42,458	1,769	971,048	41,783	1,741	958,981	35,319	1,413	845,428
March,	53,351	2,052	1,150,734	50,386	1,938	1,133,978	53,534	2,059	1 274,863	37,804	1,400	1,062,192
April,	49,376	1,899	1,070,708	53,411	2,054	1,219,928	55,554	2.137	1,346,053	50,602	1,946	1,118,043
May,	49,995	1,852	1,084,458	57,523	2,130	1,300,648	53,929	2,074	1,288,550	47,152	1,813	1,146,907
June,	49,302	1,972	1,075,000	55,294	2,127	1,234,596	56,730	2,182	1,379,257	38,052	1,464	945,520
July,	48,810	1,808	1,046,996	56,858	2,106	1,271,045	55,285	2,048	1,327,239	36,414	1,400	887,402
August,	50,742	1,879	1,099,417	54,889	2,111	1,238,260	51,234	1,970	1,211,826	40,301	1,493	975,724
September,	46,537	1,861	1,011,439	54,659	2,192	1,246,095	51,257	1,970	1,239,265	47,574	1,830	1,153,471
October,	51,636	1,912	1,128,183	52,917	1,960	1,230,860	42,722	1,582	1,041,966	47,214	1 816	1,148,089
November,	48,128	1,851	1,070,204	46,250	1,850	1,079,037	27,348	1,094	629,768	49,921	1,920	1,207,131
December,	42,105	1,620	943,687	47,567	1,762	1,039,385	21,736	805	513 187	50,329	1,864	1,219,174
Total,	581,041	1,856	12,609,949	624,198	1,986	14,138,740	558,738	1,782	13,345,230	510,759	1,623	12,427,463

SHIPMENTS OF COKE FROM THE CONNELLSVILLE REGION, INCLUDING THE LOWER CONNELLSVILLE DISTRICT, IN 1901-1911, BY MONTHS—Continued.

MONTH.	1905.			1906.			1907.		
	Cars.	Daily average.	Short tons.	Cars.	Daily average.	Short tons.	Cars.	Daily average.	Short tons.
January	49,852	1,592	1,283,152	62,049	2,386	1,665,747	62,240	2,305	1,698,475
February,	51,928	1,856	1,350,128	53,398	2,225	1,435,452	59,272	2,470	1,625,783
March,	57,606	1,858	1,497,756	62,694	2,334	1,683,212	61,999	2,384	1,701,343
April,	70,904	2,367	1,843,502	59,922	2,397	1,604,906	62,585	2,407	1,708,599
May,	55,829	1,801	1,451 554	64,923	2,404	1,739,743	65,929	2,442	1,787,611
June,	52,095	1,736	1,354,470	61,673	2,372	1,654,209	61,518	2,461	1,677,488
July,	62,423	2,014	1,622,998	61,995	2,384	1,662,545	66,577	2,355	1,741,612
August,	51,077	1,648	1,328,002	62,948	2,331	1,685,036	65,262	2,417	1,787,190
September	66,413	2,214	1,726,734	60,157	2,406	1,610,509	59,637	2,386	1,650,207
October,	55,000	1,774	1,430,238	68,940	2,516	1,850,450	64,656	2,395	1,895,307
November,	57,267	1,909	1,488,942	65,194	2,507	1,752,234	41,412	1,593	1,167,796
December,	58,425	1,885	1,519,050	61,381	2,361	1,655,283	23,670	910	677,657
Total,	688,328	1,886	17,896,526	745,274	2,385	19 999,326	691,757	2,210	19,029,059

SHIPMENTS OF COKE FROM THE CONNELLSVILLE REGION, INCLUDING THE LOWER CONNELLSVILLE DISTRICT, IN 1901-1911, BY MONTHS—Continued.

MONTH.	1908.			1909.			1910.			1911.		
	Cars.	Daily average.	Short tons.	Cars.	Daily average.	Short tons.	Cars.	Daily average.	Short tons.	Cars.	Daily average.	Short tons.
January,	25,632	949	742,096	40,782	1,568	1,205,650	64,722	2,489	1,952,406	36,511	1,404	1,194,047
February,	27,041	1,081	810,436	38,419	1,660	1,143,487	58,357	2,432	1,787,164	39,726	1,655	1,302,098
March,	28,664	1,102	841,059	39,934	1,479	1,185,814	62,329	2,308	1,922,575	49,581	1,837	1,621,301
April,	26,314	1,012	772,915	38,574	1,483	1,144,751	56,601	2,177	1,754,654	42,700	1,708	1,419,369
May,	25,567	948	759,813	41,294	1,588	1,235,044	49,426	1,901	1,527,515	39,809	1,474	1,343,879
June,	26,904	1,034	772,367	48,067	1,849	1,429,289	49,127	1,889	1,544,964	38,322	1,474	1,299,295
July,	30,066	1,113	836,843	54,635	2,023	1,605,937	46,194	1,848	1,446,294	37,129	1,424	1,257,820
August,	32,938	1,266	952,492	55,724	2,143	1,641,287	40,200	1,713	1,464,060	40,264	1,491	1,355,774
September	33,646	1,294	975,606	58,247	2,240	1,704,919	43,857	1,691	1,399,140	41,389	1,592	1,394,752
October,	35,252	1,305	1,030,552	61,440	2,363	1,821,444	45,800	1,764	1,450,717	42,582	1,638	1,424,232
November,	34,665	1,386	995,807	61,813	2,377	1,835,745	38,919	1,497	1,252,797	41,288	1,592	1,385,627
December,	41,533	1,597	1,190,036	62,050	2,298	1,832,465	37,054	1,372	1,196,436	39,371	1,651	1,335,974
Total,	368,222	1,173	10,700,022	600,979	1,920	17,785,832	598,706	1,640	18,689,722	488,672	1,339	16,334,168

While the coke production is generally given by districts, yet for some purposes and for many persons it is desirable to know the output by counties, and in the following table the statistics of production are thus given for the year 1911. We are not able to give similar figures for earlier years for the purpose of comparison:

PRODUCTION OF COKE BY COUNTIES, 1911.

COUNTIES.	Ovens.		Coal charged.		Coke produced.	
	Built.	Building.	Short tons.	Value.	Short tons.	Value.
Allegheny,	2,274		1,358,637	$1,479,645	852,151	$1,967,148
Armstrong,	52		a	a	a	a
Bedford,	508	30	176,581	196,180	113,353	241,986
Blair,	300		27,062	27,062	18,149	28,555
Beaver,	240					
Cambria,	1950		1,154,652	1,134,150	808,011	2,008,178
Clearfield,	696		309,975	376,388	186,570	462,450
Cameron,	100					
Centre,	150					
Dauphin,	120		b	b	b	b
Delaware,	40		b	b	b	b
Elk,	100		a	a	a	a
Fayette,	29,548	754	19,566,445	18,764,970	13,173,137	24,277,361
Huntingdon,	222					
Indiana,	780		a	a	a	a
Jefferson,	1963		1,001,212	823,076	571,882	1,240,454
Lebanon,	318		b	b	b	b
Mercer,	212		b	b	b	b
Northampton,		500				
Somerset,	225		a	a	a	a
Westmoreland,	13,545	15.7	7,195,948	6,776,401	4,678,030	9,116,439
Other counties,			204,199	191,543	108,575	242,047
Bi-product ovens,			1,103,025	2,603,630	853,074	2,668,455
Total,	54,904	1,271	32,875,655	$92,923,460	21,923,935	$43,053,367

In the following tables are given some general data concerning the coke production, being taken from the general statistics in the United States as given in the several reports on the Mineral Resources.

NUMBER OF COKE OVENS IN THE UNITED STATES ON DECEMBER 31, OF EACH YEAR, FROM 1880 TO 1911.

1880,	12,372
1885,	20,116
1890,	37,158
1895,	45,565
1900,	58,484
1905,	87,564
1910,	104,440
1911,	103,879

a Included in other counties.
b Included in bi-product. Only bi-product ovens in these counties.

COAL REQUIRED TO PRODUCE A TON OF COKE IN TONS AND POUNDS

Year.	Tons.	Pounds.	Year.	Tons.	Pounds.
1880,	1.57	3,140	1905,	1.537	3,074
1890,	1.56	3,120	1906,	1.531	3,062
1900,	1.57	3,140	1907,	1.519	3,038
1901,	1.57	3,740	1908,	1.515	3,030
1902,	1.56	3,120	1909,	1.510	3,020
1903,	1.56	3,120	1910,	1.513	3,026
1904,	1.544	3,088	1911,	1.499	2,998

PERCENTAGE YIELD OF COAL IN COKE, 1880-1911.

1880,	63.0	1905,	65.1
1890,	64.0	1906,	65.3
1900,	63.9	1907,	65.8
1901,	63.7	1908,	66.0
1902,	64.1	1909,	66.2
1903,	64.1	1910,	66.1
1904,	64.8	1911,	66.2

AVERAGE PRICE PER TON AT THE OVENS OF THE COKE MADE IN THE UNITED STATES, 1880-1911.

1880,	$1.99
1881,	1.88
1882,	1.77
1883,	1.49
1884,	1.49
1885,	1.49
1886,	1.63
1887,	2.01
1888,	1.46
1889,	1.62
1890,	2.02
1891,	1.97
1892,	1.96
1893,	1.74
1894,	1.34
1895,	1.44
1896,	1.84
1897,	1.66
1898,	1.59
1899,	1.76
1900,	2.31
1901,	2.04
1902,	2.49

AVERAGE PRICE PER TON OF COKE IN THE UNITED STATES, 1880-1911—Continued.

1903,	$2.63
1904,	1.95
1905,	2.25
1906,	2.52
1907,	2.74
1908,	2.40
1909,	2.29
1910,	2.39
1911,	2.37

TOTAL VALUE AT OVENS, OF THE COKE MADE IN THE UNITED STATES, 1880-1911.

1880,	$6,631,265
1881,	7,725,175
1882,	8,462,167
1883,	8,121,607
1884,	7,242,878
1885,	7,629,118
1886,	11,153,366
1887,	15,321,116
1888,	12,445,963
1889,	16,630,301
1890,	23,215,302
1891,	20,393,216
1892,	23,536,141
1893,	16,523,714
1894,	12,328,856
1895,	19,234,319
1896,	21,660,729
1897,	22,102,514
1898,	25,586,699
1899,	34,670,417
1900,	47,443,331
1901,	44,445,923
1902,	63,339,167
1903,	66,498,664
1904,	46,144,941
1905,	72,476,196
1906,	91,608,034
1907,	111,539,126
1908,	62,483,983
1909,	89,965,483
1910,	99,742,701
1911,	84,130,849

DIRECTORY OF COKE PRODUCERS.

In the following list the producers of coke are given by counties and not by districts, as is the general practice. *a*

ALLEGHENY COUNTY.

OPERATOR.	P. O. ADDRESS.
Frick, H. C., Coke Co.,	Pittsburg.
Jones & Laughlin,	Pittsburg.
McCall, P. J., West End Coal & Coke Co.,	127 S. Main St., Pittsburg.
Penn Salt Mfg. Co.,	115 Chestnut St., Philadelphia.
Pittsburg Gas & Coke Co.,	17 Battery Place, New York.

ARMSTRONG COUNTY.

Provident Coke & Mining Co.,	Kelly Station.
United States Sewer Pipe Co.,	Frick Bldg., Pittsburg.

BEAVER COUNTY.

Pittsburg Crucible Steel Co.,	Oliver Bldg., Pittsburg.

BEDFORD COUNTY.

Colonial Iron Co.,	Riddlesburg.
Thropp, Jos. E.,	Everett.

BLAIR COUNTY.

Altoona Coal & Coke Co.,	Altoona.
Cambria Steel Co.,	Johnstown.
Glen White Coal & Lumber Co.,	Glenwhite.
Penn Coal & Coke Co.,	17 Battery Place, New York.

CAMBRIA COUNTY.

Cambria Steel Co.,	Johnstown.
Eastern Bituminous Coal Mining Co.,	Real Estate Trust Bldg., Philadelphia.
Taylor & McCoy Coal & Coke Co.,	210 Union Trust Bldg., Baltimore, Md.
Hastings Coal & Coke Co.,	Cherry Tree.
Kennerly, J. Blair,	Penn Square Bldg., Philadelphia.
Oak Ridge Coal & Coke Co.,	Hastings.
Penn Coal & Coke Co.,	17 Battery Place, New York.
Vinton Colliery Co.,	Penn Square Bldg., Philadelphia.

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a It is realized that the list of mineral producers in the State is far from perfect. Any additions or corrections sent to the State Geologist, Beaver, Penna., will be greatly appreciated.

CAMERON COUNTY.

OPERATOR.	P. O. ADDRESS.
Emporium Iron Co.,	Canoe Run.

CENTRE COUNTY.

Clearfield Bituminous Coal Corporation, 418 Stephen Girard Bldg., Philadelphia.
Lehigh Valley Coal Co., ... 90 West St., New York.

CLEARFIELD COUNTY.

Cascade Coal & Coke Co., ... 55 Erie Bank Bldg., Buffalo, N. Y.
Carona Coal & Coke Co., ... Madera.
Irvona Coal & Coke Co., ... Real Estate Trust Bldg., Philadelphia.
Morrisdale Coal Co., ... Broad and Chestnut Sts., Philadelphia
Rochester & Pittsburg Coal & Iron Co., ... Rochester, N. Y.

DAUPHIN COUNTY.

Semet-Solvay Co., ... Syracuse, N. Y.

DELAWARE COUNTY.

Philadelphia Suburban Gas & Electric Co., ... Chester

FAYETTE COUNTY.

Ada Coke Co., ... Uniontown.
Atlas Coal Co., ... Leetonia, O.
Banning Connellsville Coke Co., ... Uniontown.
Barton, Wm., ... Smithfield.
Baxter Ridge Coal Co., ... Uniontown.
Bessemer Coke Co., ... Pittsburg.
Brier Coke Co., ... Brier Hill.
Brown, W. Harry, James Ward, Jr., Man., ... 7 Wood St., Pittsburg.
Brown & Cochran, ... Dawson.
Brownfield, I. H., ... Uniontown.
Browning Coke Co., A. J. Davis, Supt., ... Uniontown.
Brownsville Coke Co., ... Uniontown.
Byrne, John & Co., ... New Salem.
Champion Connellsville Coke Co., ... Brownsville.
Century Coke Co., ... Brownsville.
Cochran's, Jas., Sons & Co., ... Dawson.
Cochran Bros., ... Dawson.
Colonial Coke Co., ... Pittsburg.
Consolidated Connellsville Coke Co., ... Uniontown.

OPERATOR.	P. O. ADDRESS.
Connellsville Central Coke Co.,	Pittsburg.
Connellsville Coke Co.,	Brownsville.
Echard Coal & Coke Co.,	Connellsville.
Etna Connellsville Coke Co.,	Connellsville.
Fayette Coke Co.,	New Salem.
Franklin Coke Co.,	Uniontown.
Frick, H. C., Coke Co.,	Pittsburg.
Geary, H. A.,	Greensburg.
Genuine Connellsville Coke Co.,	Waltersburg.
Gilmore Coke Co.,	Uniontown.
Hope Coke Co.,	Uniontown.
Hoover, James H.,	R. F. D., No. 7, Smithfield; McClellandtown.
Hustead Semans Coal & Coke Co.,	Uniontown.
Iron City Coal & Coke Co.,	Pittsburg.
Jacobs Creek Coal Co.,	Uniontown.
Kaine & Wilkey Coal Co.,	Uniontown.
Keister, B. F., & Co., J. L. Robbins,	Scottdale.
Labelle Coke Co.,	Steubenville, O.
Leckrone Coke Co.,	Uniontown.
Lincoln Coal & Coke Co.,	Scottdale.
Marietta Gainer Coal & Coke Co.,	Connellsville.
Mt. Hope Coke Co.,	Uniontown.
McKelfrey Coal Co.,	Leetonia, O.
Newcomer Coke Co.,	Uniontown.
Oliver & Snyder Steel Co.,	Pittsburg.
Orient Coke Co.,	Uniontown.
Puritan Coke Co.,	McClellandtown.
Parshall, W. J.,	Uniontown.
Penn Coke Co.,	28 Second National Bank Bldg., Uniontown.
Pennsville Coke Co.,	Pennsville.
Perry Coke Co.,	Diamond Bank Bldg., Pittsburg.
Perry Mining Co.,	Connellsville.
Plumer Coke Co.,	Uniontown.
Prospect Coal & Coke Co.,	Uniontown.
Rich Hill Coke Co.,	Uniontown.
Rainey, W. J.,	527 Fifth Ave., New York.
Republic Iron & Steel Co.,	Republic Bldg., Youngstown, O.
Sackett, H. R., Coal & Coke Co.,	Uniontown.
Sapper Coke Co., J. A. Shannon, G. M.,	Uniontown.
Semet-Solvay Co.,	Syracuse, N. Y.
Shannon Coal & Coke Co.,	Uniontown.
Shawmut Mining Co.,	St. Marys.

OPERATOR.	P. O. ADDRESS.
South Fayette Coke Co.,	Uniontown.
Southern Connellsville Coke Co.,	Uniontown.
Smithfield Coal & Coke Co.,	Smithfield.
Stauffer, J. R., & Co.,	Scottdale.
Stewart Iron Co.,	Sharon.
Struthers Coal & Coke Co.,	Citizens Bldg., Cleveland, O.
Sunshine Coal & Coke Co.,	Uniontown.
Taylor Coal & Coke Co.,	826 Hickox Bldg., Cleveland, O.
Thompson-Connellsville Coke Co.,	1104 Diamond Bank Bldg., Pittsburg.
Tower Hill Connellsville Coke Co.,	Uniontown.
Union Connellsville Coke Co., Wm. Allison, Mgr.,	Uniontown.
United Connellsville Coke Co.,	Oliver Bldg., Pittsburg.
Watersburg Coke Co.,	Uniontown.
Washington Coal & Coke Co.,	Dawson.
Whyel Coke Co.,	Uniontown.

HUNTINGDON COUNTY.

Rockhill Iron & Coke Co.,	406 Lafayette Bldg., Philadelphia.
Thropp, Jos. E.,	Everett.

INDIANA COUNTY.

Graceton Coke Co.,	Graceton.
Jefferson & Clearfield Coal & Coke Co.,	Rochester, N. Y.
Wharton Coal & Coke Co.,	Coral.

JEFFERSON COUNTY.

Cascade Coal & Coke Co.,	55 Erie Bank Bldg., Buffalo, N. Y.
Jefferson & Clearfield Coal & Iron Co.,	Rochester, N, Y.
Rochester & Pittsburg Coal & Coke Co.,	Rochester, N, Y.

LEBANON COUNTY.

Lackawanna Iron & Steel Co.,	Buffalo, N. Y.
Semet-Solvay Co.,	Syracuse, N. Y.

LEHIGH COUNTY.

Lehigh Coke Co.,	71 Broadway, New York.

MERCER COUNTY.

Carnegie Steel Co.,	Pittsburg.

SOMERSET COUNTY.

OPERATOR.	P. O. ADDRESS.
Consolidated Coal Co.,	Continental Bldg., Philadelphia.

WASHINGTON COUNTY.

Bessemer Coke Co.,	Pittsburg.
Ellsworth Coll. Co.,	Ellsworth.
Pittsburg & Westmoreland Coal Co.,	Fulton Bldg., Pittsburg.
Pittsburg Buffalo Co.,	Frick Bldg., Pittsburg.

WESTMORELAND COUNTY.

Atlantic Crushed Coke Co.,	Greensburg (Bradenville).
Bessemer Coke Co.,	Pittsburg.
Bolivar Coal & Coke Co.,	421 Wood St., Pittsburg.
Brownfield Connellsville Coke Co.,	Uniontown.
Brush Run Coal & Coke Co.,	Mt. Pleasant.
Clarke Coke Co.,	Greensburg.
Columbia Coal & Coke Co.,	708 Diamond Bank Bldg., Pittsburg.
Connellsville Mutual Coal & Coke Co.,	Scottdale.
Donehue Coke Co.,	Greensburg.
Dunn Connellsville Coke Co.,	Brownsville.
Fort Palmer Coal & Coke Co.,	Latrobe.
Frick, H. C., Coke Co.,	Pittsburg.
Hostettler Connellsville Coke Co.,	Pittsburg.
Humphries, E. A. Coal & Coke Co.,	Derry, R. F. D., 1.
Jamison Coal & Coke Co.,	Greensburg.
Keystone Coal & Coke Co.,	Greensburg.
King Coke Co.,	Uniontown.
Latrobe Coal Co.,	Altoona.
Latrobe Connellsville Coal & Coke Co.,	Latrobe.
Ligonier Coal Co.,	Latrobe.
Loyalhanna Coal & Coke Co.,	2136 Land Title Bldg., Philadelphia.
Magee Coke Co.,	Uniontown.
Marion Coke Co.,	Mt. Pleasant.
Marietta-Connellsville Coke Co.,	Connellsville.
Mt. Pleasant Connellsville Coke Co.,	Greensburg.
Mt. Pleasant Coke Co.,	Connellsville.
Northern Connellsville Coke Co.,	Connellsville.
Penn Gas Coal Co.,	222 S. 3rd St., Philadelphia.
Peerless Connellsville Coke Co.,	Wabash Bldg., Pittsburg.
Pittsburg Coal Co.,	Pittsburg.
Rainey, W. J.,	527 5th Ave., New York.

OPERATOR.	P. O. ADDRESS.
Shenango Furnace Co.,	Oliver Bldg., Pittsburg.
South Fayette Coke Co.,	Uniontown.
Sunshine Coal & Coke Co.,	Uniontown.
United Connellsville Coke Co.,	Oliver Bldg., Pittsburgh.
Unity Connellsville Coke Co.,	Latrobe.
Veteran Coke Co.,	Greensburg
Whyel Coke Co.,	Uniontown.

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CLAY AND CLAY PRODUCTS

CLAY AND CLAY PRODUCTS

Of all the mineral products of the United States, the Clay Industry ranks third, being only exceeded in value by Coal and Pig Iron. The following table compiled by the United States Geologic Survey gives in general the value of production of clay products for the years 1894 to 1911.

CLAY PRODUCTS OF UNITED STATES, 1894-1911.

Year	Number of operating firms reporting.	Common brick.			Front brick.			Vitrified Paving Brick.			Fancy or ornamental brick (value).	Enameled brick (value).	Fire brick (value).
		Quantity.	Value.	Average price per thousand.	Quantity.	Value.	Average price per thousand.	Quantity.	Value.	Average price per thousand.			
		Thousands			Thousands			Thousands					
1894	-----	6,152,420	$35,062,538	$5.70	(a)	(a)	-----	457,021	$3,711,073	$8.12	$1,128,608	(b)	$4,762,820
1895	-----	6,017,965	31,569,126	5.25	339,204	$4,399,367	$12.97	381,591	3,130,472	8.20	652,519	(b)	5,279,004
1896	5,293	5,703,279	29,664 043	5.20	270,335	3,390 941	12.54	320,407	2,794,585	8.72	763,140	(b)	4,944,723
1897	5,424	5 292,532	26,430,207	4.99	310,918	3,855,033	12.40	435,851	3,582,037	8.22	685,048	(b)	4,094,704
1898	5,971	5,867,415	30,980,704	5.28	295,833	3,572,385	12.08	474,419	4,016,822	8.47	358,372	$279,993	6,093,071
1899	6,962	7,695,305	39,887,522	5.18	438,817	4,767,343	10.86	580,751	4,750,424	8.18	476,191	329,969	8,641,882
1900	6,475	7,140,622	38,621,514	5.41	344,516	3,864,670	11.09	546,679	4,764,124	8.71	289,698	323,630	9,830,517
1901	6,421	8,038,579	45,503,076	5.66	415,343	4,709,737	11.34	605,077	5,484,134	9.06	372,131	463,709	9,870,421
1902	6,046	8,475,067	48,885,869	5.77	458,391	5,318,008	11.60	617,192	5,744,530	9.31	335,290	471,163	11,970,511
1903	6,034	8,463,683	50,532,075	5.97	433,016	5,402,861	12.48	654,499	6,453,849	9.86	328,887	569,989	d14,062,369
1904	6,108	8,665,171	51,768,558	5.97	434,351	5,560,131	12.80	735,489	7,557,425	10.28	300,233	545,397	11,167,972
1905	5,925	9,817,355	61,394,383	6.25	541,590	7,108,092	13.12	665,879	6,703,710	10.07	293,907	636,279	12,735,404
1906	5,857	10,027,039	61,300,696	6.11	611,469	7,895,323	12.79	751,974	7,857,768	10.45	207,119	773,104	14,206,868
1907	5,536	9,795,698	58,785,461	6.00	585,943	7,329,300	12.51	876,245	9,654,282	11.02	361,243	918,173	14,946,045
1908	5,328	7,811,046	44,765,614	5.73	584,482	6,935,600	11.87	978,122	10,657,475	10.90	259,556	660,862	10,696,216
1909	5,068	9,791,870	57,251,115	5.85	816,164	9,712,219	11.90	1,023,654	11,269,586	11.01	174,073	993,902	16,620,695
1910	4,915	9,221,517	55,219,551	5.99	697,857	8,590,057	12.31	968,000	11,004,666	11.37	179,505	832,225	18,111,474
1911	4,628	8,475,277	49,885,262	5.89	724,911	8,648,877	11.93	948,758	11,115,742	11.72	177,015	1,038,865	16,074,686

a. Common and pressed brick nor separately classified in 1894.
b. Enameled brick not separately classified prior to 1898.

CLAY PRODUCTS OF UNITED STATES, 1894-1911.—(Continued).

Stove lining (value).	Drain tile (value).	Sewer pipe (value).	Ornamental terra cotta (value).	Fireproofing (value).	Hollow building tile or blocks (value).	Tile not drain (value).	Pottery (value).	Miscellaneous (value).	Total brick and tile (value).	Total (value).
(c)	$5,803,168	$5,989,923	$1,476,185	$514,637	(f)	$1,688,724	(g)	$4,517,709	----------	$64,655,385
(c)	3,450,961	4,482,577	2,512,193	741,626	(f)	2,572,628	(g)	6,619,333	----------	65,409,806
(c)	2,613,513	4,588,503	2,359,983	1,706,504	(f)	1,618,127	$7,455,627	1,210,719	----------	63,110,408
(c)	2,623,305	4,069,534	1,841,422	1,979,259	(f)	1,476,638	10,309,209	1,413,595	----------	62,359,991
(c)	3,115,318	3,791,057	2,043,325	1,900,642	(f)	1,746,024	14,589,224	2,000,743	----------	74,487,680
$416,235	3,682,394	4,560,384	2,027,582	1,665,066	(f)	1,276,300	17,250,250	6,065,928	----------	95,797,370
462,541	2,976,281	5,842,562	2,372,568	1,820,214	(f)	2,349,420	19,798,570	2,896,036	----------	96,212,345
423,371	3,143,001	6,736,969	3,367,982	1,860,269	(f)	2,867,659	22,463,860	2,945,268	----------	110,211,587
630,924	3,506,787	7,174,892	3,526,906	3,175,593	(f)	3,622,863	24,127,453	3,678,742	----------	122,169,531
(d)	4,639,214	8 525,369	4,672,028	2,708,143	$1,153,200	3,505,329	25,436,052	3,073,856	----------	130,962,648
(d)	5,348,555	9,187,423	4,107,473	3,629,101	----------	3,023,428	25,158,270	3,669,282	$105,854,978	131,023,248
645,432	5,850,210	10,097,089	5,003,158	4,098,793	----------	3,647,726	27,918,894	3,564,111	121,778,294	149,697,188
743,414	6,543,289	11,114,967	5,739,460	4,586,538	----------	4,634,898	31,440,884	3,988,394	129,591,838	161,032,722
627,647	6,864,162	11,482,845	6,026,977	4,250,618	----------	4,551,881	30,143,474	3,000,201	128,798,895	158,942,369
529,976	8,661,476	11,003,731	4,577,367	3,168,037	----------	3,877,780	25,135,555	2,268,517	108,062,207	133,197,762
423,583	9,799,158	10,322,324	6,251,625	4,466,708	----------	5,291,963	31,049,441	2,694,821	135,271,772	166,321,213
503,806	10,389,822	11,428,696	6,976,771	5,110,597	----------	5,240,644	33,784,678	2,743,482	136,331,296	170,115,974
614,116	8,826,314	11,454,616	6,017,801	5,660,172	----------	5,356,184	34,518,560	2,847,971	127,717,621	162,236,181

c. Stove lining not separatcly classified prior to 1898.
d. Stove lining included in fire brick in 1903.
e. Including pottery produces in 1894 and 1895.
f. Hollow building tile or blocks included in fireproofing prior to 1903.
g. Pottery not separately classified in 1894 and 1895.
h. Included hollow building blocks or tile.

Of all this vast production Pennsylvania has produced something over 13 per cent., being only exceeded by Ohio in the value of its product. The following tables gives the value of the several varieties of clay products produced in Pennsylvania during the years 1900 to 1911, as compiled by the United States Geological Survey.

CLAY PRODUCTS OF PENNSYLVANIA, 1900-1911.

Year.	Number of operating firms reporting.	Common Brick.			Front Brick.			Vitrified Paving Brick.			Fancy or ornamental brick. Value.	Fire brick. Value.	Stove lining. Value.	Drain tile. Value.	Sewer pipe. Value.	Ornamental terra cotta. Value.	Fire proofing. Value.	Tile, not drain. Value.	Pottery. Value.	Miscellaneous. Value.	Total Value.
		Quantity.	Value.	Average price per thousand.	Quantity.	Value.	Average price per thousand.	Quantity.	Value.	Price per thousand.											
		Thousands			Thousands			Thousands													
1900	508	777,663	$4,484,590	$6.02	54,068	$596,559	$11.03	57,827	$481,670	$8.33	$57,279	$4,587,991	$90 348	$8,420	$522,650	$180,100	$95,957	$191,878	$1,174,139	$920,167	$13,391,748
1901	507	875,631	5,357,079	6.12	70,207	844,087	12.02	73,498	670,081	9.12	74,726	4,791,083	86,190	7,409	438,998	314,900	101,652	188,525	1,271,336	1,175,676	15,321,742
1902	511	949,718	6,074,352	6.40	77,746	966,530	12.43	76,024	716,887	9.43	20,972	6,080,213	116,653	9,317	550,481	243,800	138,839	232,431	1,744,238	938,712	17,833,425
1903	523	927,212	6,174,437	6.66	80,177	1,050,805	13.11	72,039	685,274	9.51	32,602	6,537,076	a	11,451	727,465	329,004	278.621	207,608	1,714,143	1,098,838	18,847,324
1904	529	856,963	5,439,116	6.35	75,407	962,765	12.77	71,522	766,638	10.72	23,317	5,477,475	a	8,646	834,646	349,317	193,190	215,107	1,212,030	1,339,616	16,821,863
1905	516	1,036,777	6,532,814	6.30	131,638	1,683,031	12.81	71,888	750,389	10.44	37,966	5,771,795	180,353	13 009	866,979	405,015	352,107	210,931	1,175,356	1,024,308	19,124,553
1906	514	1,027,541	6,586,374	6.41	151,139	1,761,991	11.66	93,417	996,347	10.67	40,880	6,854,640	203,674	9,113	985,635	367,353	242,668	389,013	1,509,149	1,827,774	21,774,611
1907	487	980,102	6,353,799	6.48	134,869	1,526,565	11.32	115,729	1,232,718	10.65	17,727	6,907,904	179,218	10,386	795,991	507,116	244,773	406,269	1,268,945	840,210	20,291,621
1908	466	717,016	4,539,978	6.38	124,642	1,403,594	11.26	90,044	1,038,254	11.53	49,199	4,252,325	129,(86	14,904	578,800	389,596	241,175	337,948	1,266,198	601,325	14,842,982
1909	457	872,658	5,607,490	6.43	194,695	2,111,556	10.85	116,735	1,329,317	11.39	27,963	8 107,807	97,270	14,668	445,594	428,522	324,860	441,243	1,613,871	636,552	21,186,713
1910	451	828,703	5,371,707	6.48	171,415	2,001,967	11.68	101,330	1,204,724	11.89	35,768	6,454,928	132,567	11,480	583,418	472,150	300,187	413,047	b945,207	c4,167,135	22,094,285
1911	423	774,122	4,963,232	6.41	184,569	2,111,492	11.44	124,125	1,511,061	12.17	44,883	5,555,529	164,848	12,779	560,809	389,000	300,687	358,913	b896,732	c3,400,008	20,270,033

a. Included in fire brick.
b. Includes only Red earthenware, Stoneware and Yellow and Rockingham ware, China, bone china delft and helleck and Sanitary ware.
c. Includes items of Pottery not enumerated in "b", also Silica brick.

An analysis of these figures brings out in great contrast the peculiar relations of the Clay Industry in Pennsylvania as compared with other states. The decline in the production throughout the United States, during 1908, as compared with that of the year 1907 was a little over 15 per cent., while in Pennsylvania the decline was 27 per cent. Of this decline in value in Pennsylvania, which amounted in all to $5,449,000, one-half or $2,655,000 was in the value of fire brick produced, the falling off of this class of products being almost 40 per cent. During the time included in the foregoing table the value of the fire brick produced was almost one-third of the total value of the Clay Products of Pennsylvania, while the value of all the fire brick produced in the United States was less than 10 per cent. of the total value of Clay Products. The production of fire brick in Pennsylvania was more than 45 per cent. of the entire production of fire brick in the United States. It is thus evident that the output of fire brick in Pennsylvania largely affects the total value of our clay products, and being directly related to the iron and steel industry, the condition of that industry seriously affects the clay products of the State. This is illustrated again by the figures of production for 1909, when compared with those of 1908. The output of fire brick being almost double what it was in 1908, while the production of common brick in the same time only increased 23 per cent. and face brick but 50 per cent. over the preceding year.

Clay is a term applied to a natural substance, which when wet becomes pasty, or more properly plastic, and can be moulded or formed into any desired shape which is retained on drying. To the layman this constitutes "clay" but to the Clay Worker there must be the additional quality, that it will, under the influence of heat, become a hard stony mass, retaining the form given it in the plastic condition. To the layman "clay" means any earthy material which becomes stieky when worked in a wet condition, without regard to whether or not it has such quality as will permit of it being burned. There are many "clays" which are exceedingly sticky, pasty, and indeed what may be properly called plastic when worked in a wet condition, but which lack the qualities necessary to allow of drying after being moulded into shape, and even if successfully dried may not permit of burning into a stone like body, which is the quality absolutely necessary to all clay which is to be used in ceramic work.

It need not be said that we have in nature clays of all shades and degrees in the several qualities which are necessary to their successful working in the ceramic industry. There are clays which are so "stieky" they cannot be worked, at least alone, and which cannot be dried successfully without cracking; on the other hand there are clays which are so deficient in the qualities which go to make up plasticity that they cannot be kneaded into a plastic mass, and therefore cannot be moulded, but can only be formed into shape in a dry state under pressure or by adding other more plastic material to them.

Clay is used for many purposes other than strictly ceramic products, but in Pennsylvania their use in paper making, dynamite, oil cloth, linoleum, etc., is quite small. The requirements of clays for these purposes are peculiar to the industries in which they are used,

and they are not generally included in a report on clays, but rather in connection with the industry in which they are used.

EARLY CLAY WORKING IN PENNSYLVANIA.

Clay working is undoubtedly one of the oldest established industries in Pennsylvania as in all other parts of the country, and owing to the fact that clay working establishments were early erected for making common red brick at many places, numerous references are found to the early history of the industry. In Pennsylvania as in every other section of the country[a] the early developments were determined by the location of the materials used, and suitable materials for common brick were abundant nearby all the larger markets.

T. C. Hopkins[b] gives the following account of the early history of the brick industry near Philadelphia.

"The first authentic account I find of the brick industry in Philadelphia is given by William Penn himself, in a letter dated July 16, 1683, in which he says: "I have here the canoe of one tree, y. fetches four tons of brick," which shows that brick were articles of transport at that time.

"In a further account written in 1685, Penn said: "Divers brickeries going on, many cellars already stoned or bricked and brick houses going up." Penn published a letter from Robert Turner at Philadelphia, dated the third of the sixth month, 1685, which says: "and since I built my brick house * * * * many people take example, and some that built wooden houses are sorry for it. Brick buildings are said to be as cheap; bricks are exceedingly good and better than when I built, and now many brave brick houses are going up with good cellars."

"This house, erected by Turner in 1685, was located on the southeast corner of Front and Mulberry streets, and is said to be the oldest brick house in the city erected by a citizen. In 1707 Thomas Masters built the first three-story brick house.

"J. B. Bishop says that the Dutch brought bricks from New Netherlands for building purposes and that they manufactured brick as early as 1656 at New Castle (New Amstel.) One of the first brick buildings erected by the Swedes was at Wicaco in 1700. He says that Wm. Penn's instructions to his agents in 1684 was to build principally of brick.

"Pastorious, who founded Germantown, writing in 1684 in his history of "the lately discovered Province of Pennsylvania situated on the frontiers of the Western World," records that at that time they had a sufficient number of brick kilns.

Brick making on the Delaware, however, began prior to 1660. Among the records of New Amstel (New Castle), Delaware, is found the statements that in "1656 Ja Cobi Craft presented a petition conveying a plantation near New Amstel to work brick until they are made and baked."

Of the early history of brick making in the western portion of the state less is known. Ries and Leighton, *c* in writing of the early his-

a. For a discussion of the history of Clay Working in the United States, see Ries and Leighton, History of Clay Working Industry in the United States, 1909.

b. Clays of Southeastern Pennsylvania, 1899, p. 53.

c. op. cit. p. 205.

tory of Pennsylvania, state, on the authority of an artiele in the "Clay Worker," the first brick house west of the Alleghenies was ereeted in Kaskaskia in 1750. There is evidentally some error in this statement. There seems to be no place in western Pennsylvania of the name of Kaskaskia and evidentally some other locality must be intended. It would, however, seem impossible for this statement to be true of any portion of the state.

At that date developments in western Pennsylvania were not so far advanced that we could expect the erection of brick buildings, and certainly the transportation of brick from east of the mountains, as suggested in the original article, was not then feasible. This date is several years before the French founded Fort Duquesne, and eight years before that Fort was abandoned by the Freneh, and Fort Pitt ereeted by the English. There were no towns in western Pennsylvania then suffieiently far advaneed that we should expect brick structures.

It is difficult to traee the early history of clay working in the western portion of the State. General Stanwix used some brick in the ereetion of Fort Pitt in 1759, and as material for making common red brick could be had adjacent to the site of the Fort, it would seem they were probably made near the Fort.

It does not seem, however, that brick were used in Pittsburgh (exeept as mentioned regarding Fort Pitt) prior to 1786. In this connection Dr. J. H. Bausman, the historian of Beaver County has furnished the following facts. "Craig's history of Pittsburgh, page 281, quites Niles register, volume 30, page 436 as saying that "Pittsburgh in 1786 contained 36 log houses, one stone and one frame house, and 5 small stores." Craig in commenting upon a statement as to the population of the town made by the Pittsburgh Gazette, in its issue of January 9, 1796, draws up a list of the houses as far as he could remember them for the same period. He finds about 102. In his list (page 280) Craig speaks of General Gibson's house as the "first brick house." If the statement of Niles register, quoted above, is eorreet, Gibson's house must have been built after 1786."

The second edifice erected by the First Presbyterian Church of Pittsburgh, was built on Wood St., 1804, and was of brick.

Of the early developments outside of Pittsburgh even less is known. Prior to 1810 *d* and probably between 1807 and 1810 "a small briek market house" was ereeted in Beaver, and in 1810 the second Court House in that town was erected, being built of briek. On March 7, 1812 the Trustees of the Beaver Academy contracted with Jonathan Mendenhall for the delivery of 140,000 brick, at $4.50 per thousand delivered, and on June 20 of the same year made a contract with Jonathan Coulter for the stone and brick work of the Academy building for the sum of $498.00.

Undoubtedly a study of local history would show many other early developments in the brick industry in other portions of the state.

d. History of Beaver County, Pennsylvania, by J. H. Bausman, 1904.

CLAY

CLAY

There is perhaps no other substance so variable in its composition as clay. It has been found that the base of clay is the mineral Kaolinite, the chemical composition of which is:

SiO_2	46.36
Al_2O_3	39.73
Combined water	13.91
	100.00

This gives the formula $Al_2O_3, 2SiO_2 + 2H_2O$.

Kaolinite crystalizes as thin white scales, with a hardness of 2.5 and a specific gravity of 2.4 to 2.6. In its natural crystalized form it possesses no plasticity, but when ground some plasticity is developed, and the finer the grinding the greater the plasticity.

While for most ceramic uses the plasticity of clay is a ruling factor, it has been found there are some substances, essentially pure clays, which are not plastic, but which are of great value in manufacture of refractories. Whether these *flint clays* are derived from the mineral kaolinite or from some other closely related mineral is a somewhat unsettled question.

In the final analysis all clays are derived from the breaking up, the physical and chemical decomposition, of igneous rocks containing the mineral kaolinite, or the chemical constituents of kaolinite in other minerals, which in the processes of rock decay are decomposed and the clay forming elements recombined into kaolinite or clay. These original rock masses were of varying composition and the rocks resulting from their decomposition and breaking down were necessarily of a varied character. The sandstones, slates and shales derived from the igneous rocks, together with the limestones were often altered by metamorphic processes and in the decomposition of these secondary formations, whether altered by metamorphism or not, the clay forming materials were again broken down, and these processes have been repeated time and again, so that the clays as we now find them are the result of a complicated series of processes, both chemical and physical.

In the complicated series of chemical actions taking place in the several processes which have resulted in our present rocks, there were also formed and set loose many other rock forming compounds.

Some of these in the processes of rock disintegration have been carried off and separated from the clay forming materials, others have been retained as part of the clay formations, in the way of impurities. The necessary result being we have clays of all degrees of purity, from the almost pure kaolinite, through all degrees of impurities until we reach the point where they are no longer clays. These impurities as we now find them, are generally due to a mixture of mineral compounds, which affect the physical character and working of the clay content in ways that are but imperfectly understood.

It is well known the behavior of different chemical compounds under the aetion of heat is not always the same, the action varying not only with the chemicals present, but also with the way they are combined into minerals, the way the resulting compounds are crystalized, and the physical condition of the same, such as size of grains, etc.

The year 1911 showed a decrease of almost $8,000,000 in the value of Clay Products produced in the United States. The output was also $4,000,000 less than that of 1909. This decrease was in that portion of the industry coming under the head of brick and tile, for the pottery industry showed an increase of $733,000.

As would naturally be the case, the falling off of the Iron and Steel industry produced a corresponding decline in the value of fire brick product, there being a decrease of over 11 per cent. from the output of 1910.

In 1910 Ohio reported 18.55 per cent. of the total value of Clay Products. Ohio has been the leading clay working state since the figures were first compiled in the United States Geological Survey in 1894, and will probably continue to be the leading state. The value of the products in Ohio is steadily increasing. In 1911, Pennsylvania produced 12.49 per cent. of the entire output of the United States. New Jersey was third producing 11.21 per cent. of the whole.

Pennsylvania continues to be the leading brick producing state, reporting over 25 per cent. of the total production of the United States.

Fire Brick is second only to common brick in value. The total production in the United States in 1911 was $16,000,000. Pennsylvania reported 41.71 per cent. in quantity of clay fire brick produced, and 41 per cent. of the value. This was a decrease of 15 per cent. in quantity from 1910.

While Pennsylvania is second in the total value of its clay products, it continues to rank first in the value of brick and tile products, reporting 14.18 per cent. of the total.

The following table will give in detail the output of fire brick in the United States and in Pennsylvania for the years 1901 to 1911.

FIRE BRICK.

	UNITED STATES.			PENNSYLVANIA.		
	Quantity.	Value.	Average price per thousand.	Quantity.	Value.	Average price per thousand.
1901	----------	$9,870,421	----------	----------	$4,791,083	----------
1902	----------	11,970,511	----------	----------	6,080,213	----------
1903	----------	14,062,369	----------	----------	6,537,076	----------
1904	579,760	11,167,972	$18.68	275,592	5,477,475	$19.88
1905	679,971	12,735,404	18.73	312,470	5,771,795	18.47
1906	770,839	14,206,868	18.43	374,857	6,854,640	18.29
1907	783,017	14,946,045	19.09	369,956	6,907,904	18.67
1908	552,366	10,696,216	19.36	222,362	4,252,325	19.12
1909	838,167	16,620,695	19.83	417,836	8,107,807	19.40
1910	a922,209	a18,111,474	19.09	346,423	6,454,928	18.63
1911	c809,504	e16,074,686	19.86	294,062	5,555,529	18.89

a. In the total quantity and total value of fire brick are included, respectively 145,799,000 silica brick valued at $2,289,028 of which 112,083,000 valued at $2,231,063 were produced by Pennsylvania, and the remainder 33,746,000 valued at $1,057,964 by Alabama, Colorado, Georgia, Illinois, Indiana, Missouri and Montana.

b. In the total quantity and total value of fire bricks are included, respectively, 104,483,000, silica brick valued at $2,520,816 of which 74,674,000, valued at $1,525,086, were produced by Pennsylvania, and the remainder, 29,809,000, valued at $995,730 by Alabama, Colorado, Illinois, Indiana, Missouri, Montana and Utah.

POTTERY

POTTERY

The year 1911 shows the greatest value of pottery production recorded in the United States. The increase in value, however, came from the lower grades of ware, sanitary ware and porcelain electrical supplies.

As compared with 1901, the year 1911 showed a marked change in the relative proportion of the pottery produced in the United States, as compared with the imports. In 1901 the value of the domestic pottery was less than two and one-half times that of the imports, but in 1911 the value of the domestic pottery rose to three and one-fourth times that of the imports. This is probably due to the continued advancement in the quality of the ware produced by American potters and the consequent tendency to use American wares, conditions that seem to insure a steady growth of the pottery industry in this country. The following table gives the analysis of the production of pottery of the various varieties in the years 1901 to 1911 in both the United States and in Pennsylvania.

VALUE OF POTTERY PRODUCTS IN THE UNITED STATES, 1901-1911, BY VARIETIES.

Year.	Number of operating firms reporting.	Red earthenware.	Stoneware and yellow and Rockingham ware.	White ware, including C. C. ware, etc.	China, bone china delft, and belleek ware.	Sanitary ware.	Porcelain electrical supplies.	Miscellaneous.	Total.
1901	535	$703,698	$2,855,638	$11,608,898	$1,392,864	$2,877,650	$1,141,302	$1,883,750	$22,463,800
1902	518	735,386	3,383,678	12,371,111	1,219,293	3,555,662	1,350,255	1,512,078	24,127,463
1903	546	698,175	3,658,836	12,493,012	1,757,502	3,362,263	1,464,980	2,001,284	25,436,052
1904	556	756,625	3,701,844	11,924,404	1,512,115	3,585,375	1,431,452	2,246,465	25,158,270
1905	533	780,637	3,909,016	12,809,414	1,558,730	4,580,145	2,253,061	1,967,891	27,918,894
1906	540	909,262	4,193,884	14,152,503	1,787,776	5,093,310	2,838,284	2,460,865	31,440,884
1907	509	845,405	4,280,601	13,913,680	1,930,609	4,863,222	2,613,771	1,693,066	30,142,474
1908	497	757,900	3,518,841	11,474,147	1,581,020	4,373,590	2,009,005	1,421,052	25,135,555
1909	496	805,906	3,993,859	13,728,316	a1,766,766	5,989,295	3,047,499	a1,717,500	31,049,441
1910	463	854,193	3,796,688	14,780,980	1,962,126	6,758,996	3,794,153	1,837,539	33,784,678
1911	449	893,678	4,120,608	14,366,251	2,057,985	7,031,458	4,232,101	1,816,479	34,518,560

a China, bone china, delft and belleek ware for Ohio is included in miscellaneous.

VALUE OF POTTERY PRODUCTS, 1900 to 1911 IN PENNSYLVANIA BY VARIETIES.

Rank of State.	Year.	Number of active firms reporting.	Red earthen ware.	Stoneware and yellow and Rockingham ware.	White ware including C. C. ware white granite semiporcelain ware and semivitreous porcelain ware.	China, bone china, delft and belleek ware.	Sanitary ware.	Porcelain electrical supplies.	Miscellaneous.	Total Value.	Percentage of total.
	1900,		86,582	255,457	465,000				103,179	1,023,773	
	1901,		109,233	320,800	60,000				38,676	816,612	
	1902,		120,323	373,654	254,856		146,000		5,210	993,097	
	1903,		133,391	393,494	286,398	a	144,414		a5,364	1,071,511	
	1904,		127,250	371,096	178,809		b		3,500	855,536	
4	1905,	49	149,786	309,325	716,245				700	1,346,431	4.82
3	1906,	46	165,073	312,150	845,366		186,560		897,993	2,410,817	7.67
5	1907,	40	164,096	380,361	531,634	a	192,854		25,833	1,309,878	4.35
5	1908,	35	138,181	259,095	623,544	69,994	175,384		a10,305	1,276,503	5.08
5	1909,	33	159,796	297,029	812,338	91,757	252,951	b	10,464	1,782,769	5.74
4	1910,	33	178,348	323,990	a	188,122	254,747	b	14,726	2,279,930	6.75
5	1911,	31	159,420	304,998	a	216,724	215,590	b	11,108	2,156,817	6.25

a and b. Included in Other States and in total value.

In the following table is given the statistics of the Clay Products of Pennsylvania for the years 1900 to 1911, divided into varieties from which the relative growth of the several divisions of the industry can be readily seen.

Product.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
Brick—												
Common:												
Quantity,	744,663,000	875,631,000	949,718,000	927,212,000	856,963,000	1,036,777,000	1,027,541,000	980,102,000	717,016,000	872,658,000	828,703,000	774,122,000
Value,	$4,484,590	$5,357,079	$6,074,352	$6,174,437	$5,439,116	6,532,814	$6,586,374	$6,353,799	$4,539,978	$5,607,490	$5,371,707	$4,963,232
Average per M.,	$6.02	$6.12	$6.40	$6.66	$6.35	$6.30	$6.41	$6.48	$6.33	$6.43	$6.48	$6.41
Front:												
Quantity,	54,068,000	70,207,000	77,746,000	80,177,000	75,407,000	131,368,000	151,138,000	134,869,000	124,642,000	194,695,000	171,415,000	184,569,000
Value,	$596,559	$844,087	$966,530	$1,050,805	$962,765	$1,683,031	$1,761,999	$1 526,565	$1,403,594	$2,111,556	$2,001,967	$2,111,492
Average per M.,	$11.03	$12.02	$12.43	$13.11	$12.77	$12.81	$11.66	$11.32	$11.26	$10.85	$11.68	$11.44
Vitrified:												
Quantity,	57,827,000	73,498,000	76,024,000	72 039 000	71,522,000	71,888,000	93,417,000	115,729,000	90,044,000	116,735,000	101,330,000	124,125,000
Value,	$481,670	$670,081	$716,887	$685,274	$766,638	$750,389	$996,347	$1,232,718	$1,038,254	$1,329,317	$1,204,724	$1,511,061
Average per M.,	$8.33	$9.12	$9.43	$9.51	$10.72	$10.44	$10.67	$10.65	$11.53	$11.39	$11.89	$12.17
Fancy or ornamental:												
Value,	$57,279	$74,726	$20,972	$32,602	$23,317	$37,966	$40,880	$17,727	$49,199	$27,963	$35,768	$44,883
Fire —value	$4,587,991	$4,791,083	$6,080,213	$6,537,076	$5,477,475	$5,771,795	$6,854,640	$6,907,904	$4,252,325	$8,107,807	$6,454,928	$5,555,529
Stove lining —do	$90,348	$86,190	$116,653	(a)	(a)	$180,353	203,674	179,218	129,686	97,270	132,567	164,848
Draintile —do	$8,420	$7,409	$9,317	$11,451	$8,646	$13,509	$9,113	$10,386	$14,904	$14,668	$11,480	$12,779
Sewer pipe —do	$522,650	$438,998	$550,481	$727,465	$834,646	$886,979	$985,635	$795,991	$578,800	$455,594	$583,418	$560,809
Architectural terra cotta —do	$180,100	$314,900	$243,800	$329,004	$349,317	$405,015	$367,353	$507,116	$389,596	$428,522	$472,150	$389,000
Silica Brick												1,525,086
Fireproofing, terra cotta lumber, hollow building tile or block value,	$95,957	$101,652	$138,839	$278,621	$193,190	$352,107	$242,668	$244,773	$241,175	$324,860	$300,187	$300,687
Tile, not drain —value	$191,878	$188,525	$232,431	$207,608	$215,107	$310,931	$389,013	$406,948	$337,948	$441,243	$413,047	$358,913
Pottery:												
Earthenware and stoneware, —value	$344,139	$431,433	$499,227	$533,535	$504,221	$459,111			$138,181	$159,796	$178,348	$159,420
Yellow and Rockingham ware, —value	(b)	(b)	(b)	(b)	(b)	(b)	$477,223	$544,457	$259,095	$297,029	$323,990	$304,998
C. C. ware —value	(b)		(b)		(b)				$69,994	$91,757	$188,122	$216,724
White granite ware value	$830,000	$839,903	$1,099,011	$1,036,194	$707,809	$716,245	$845,366	$531,634	$623,544	$812,338	(a)	
Sanitary ware —value		(b)	$146,000	$144,414	(b)	(a)	$186,560	$192,854	$175,384	$252,951	$254,747	$215,590
Miscellaneous c, —do	$920,167	$1,175,676	d$938,712	$1,098,838	$1,339,616	$1,024,308	$1,827,774	$840,210	$601,325	$636,552	c$4,167,135	c$1,874,982
Total value,	$13,391,748	$15,321,742	$17,833,425	$18,847,324	$16,821,863	$19,124,553	$21,774,611	$20,291,621	$14,842,982	$21,186,713	$22,094,285	$20,270,033
Number of operating firms reporting,	508	507	511	523	529	516	514	487	466	457	451	423
Rank of State,	2	2	2	2	2	2	2	2	2	2	2	2

a. Stove lining included in fire brick in 1903.

b. Included in miscellaneous.

c. Includes all products not otherwise classified, and those made by less than three producers, in order that the operations of individual establishments may not be disclosed.

d. Also includes enameled brick.

CLAY

CLAY

Clay suitable for the manufacture of clay products, is one of the most widely spread of minerals, and especially is this true of clay suitable for the manufacture of common brick, drain tile, fire proofing, paving brick, and all the lower grades of clay products. It follows from this wide distribution that most manufacturers of clay products are also miners of the minerals they use, but as one approaches the higher grades of clay products this rule gradually reverses, until in the higher grades of ware there are but few manufacturers who mine any of their raw materials.

The figures given in the following table represent the clay that is mined, and not manufactured by the miner, but sold to the makers of clay products. The clay thus sold is mainly used for high-grade pottery, for paper making, and for refractory products.

In common with the other clay industries, the mining of clay in 1911 showed a decrease as compared with the output of 1910. The terms used to designate the several varieties of clay are not fixed, and the same producer, for example, may one year report his product Kaolin and another year as paper clay; hence, the figures of production are not absolutely comparable.

In 1911 the total quantity of clay mined and sold in the United States was 2,182,698 short tons, a decrease from the output of 1910 of 206,531 tons, or 8.64 per cent. The average price of clay in the United States in 1911 was $1.59 per ton, as compared with $1.52 per ton in 1910, and therefore, the total decrease in value was only $144,722. The greatest decrease was in fire clay, which decrease was due to the condition of the iron and steel industry.

The fire clay produced was 69.66 per cent. of the total output in quantity, and 60.70 per cent. of the total value of all the clay marketed in 1911.

The following table shows the production of the various kinds of clay mined and sold in Pennsylvania for the years 1911 and 1912. Owing to the few producers in most of the counties, it is impracticable to show the output by districts or counties without disclosing in many cases the individual output.

PENNSYLVANIA CLAY MINED AND SOLD.

	1911.		1912.	
	Quantity.	Value.	Quantity.	Value.
Kaolin,	4,303	$23,411	----------	----------
Paper Clay,	20,327	117,021	$23,549	$135,288
Fire Clay,	345,388	478,619	281,212	411,884
Stone Ware Clay,	9,066	5,760	3,802	2,820
Brick Clay,	6,499	5,025	14,230	13,789
Miscellaneous,	10,655	6,777	6,404	3,841
Total,	396,238	$636,613	329,197	$567,622

Pennsylvania in 1911 was the second producing state in value of clay as it was in 1910, and reported 15.08 per cent. of the total clay produced in the country, and 16.31 per cent. of the total value. There was a decrease in the quantity of clay mined of 67,041 tons, and a decrease in value of $68,991. Of the total quantity of clay mined 85.42 per cent. was fire clay, (largely of the flint clay variety,) which represented 72.66 per cent of the value of the entire clay output of the state. The average value of fire clay in Pennsylvania, in 1911 was $1.46.

DIRECTORY OF MANUFACTURERS AND MINERS.

The following directory of the manufacturers of clay products, and miners of clays in the State is arranged under the several products manufactured and by counties. *a.*

BRICK AND TILE.

OPERATOR.	P. O. ADDRESS.

ADAMS COUNTY.

Alwine Bros.,	New Oxford.
Auburn Shale Brick Co.,	Gettysburg.
Carbaugh, W. H.,	Berlin Junction.
Gettysburg Drain Tile Works,	Gettysburg
Penn Tile Works,	Aspers
Staub, James A. & Bros.,	New Oxford

ALLEGHENY COUNTY.

Allegheny Brick Co. Ltd.,	906 Fulton Bld., Pittsburg
Beckert, John W., Estate of ...	Pacific Ave. & Columbia St., Pittsburg
Blair, D. & Bros.,	4761 Liberty Ave., Pittsburg
Booth & Flinn, Ltd.,	1942 Forbes St., Pittsburg
Carnegie Brick & Stone Co.,	230 Main St., Carnegie
Central Brick Co.,	Soho St., Pittsburg
Enterprise Brick & Stone Co.,	Swissvale
Entrees Brick Co.,	2240 Webster Ave., Pittsburg
Federal Brick Co.,	Hite
Fort Pitt Stone & Brick Co.,	Trust Bldg., Carnegie
Fox, James T.,	121 Wabash Ave., Pittsburg
Francis, W. J. & Co.,	Edgewood
Harbison-Walker Refractories Co.,	Pittsburg
Harper C. M. C.,	Boston
Heider & Anderson,	East Pittsburg
Homestead Brick Co.,	807 Amity St., Homestead
Hooper Bros. Co.,	Blackadore Ave., Pittsburg
Imperial Brick Co.,	Imperial
Iron City Brick & Stone Co., ...	Stanton & McCandless Aves., Pittsburg
Jones, Evan & Co., ...	36th St. & Liberty Ave., Pittsburg
Keller & Milliken,	Box 247, Braddock
Knoxville Land Improvement Co.,	86 Knox Ave., Knoxville
Lambert R. R. Co.,	Taggert St., Pittsburg N. S.
Lanz W. & Sons,	2907 Carson St., Pittsburg
Magee Christopher, Jr.,	Berger Bld., Pittsburg

a. It is realized the lists of producers in the State is not perfect and any corrections or additions sents to the State Geologist, Beaver, Pa., will be greatly appreciated.

OPERATOR.	P. O. ADDRESS.
Manown Manufacturing Co.,	1022 Oliver Bldg., Pittsburg
Marshall Brick Works,	Alpine St., Pittsburg
Mayer, C. P. Brick Co.,	Bridgeville
McFetridge Bros. Brick Co.,	Creighton
McKeesport Brick Co.,	McKeesport
Miller Brick & Stone Co.,	1030 Woods Run Ave., Allegheny
Montour Brick Co.,	Imperial
National Fire Roofing Co.,	Fulton Bldg., Pittsburg
Peckmans' Sons,	Greenock
Pittsburg Clay Pot Co.,	1247-1261 Rebecca St., Allegheny
Pittsburg Clay Product Co.,	1504 Keenan Bldg., Pittsburg
Pittsburg Conduit Co.,	Pittsburg
Pope Stone & Brick Co.,	421 Wood St., Pittsburg
Porter, James M.,	Jenkins Arcade, Pittsburg
Rosslyn Brick Co.,	Carnegie
Sankey Bros.,	2112 Carson St., Pittsburg
Squirrel Hill Brick Co.,	Pittsburg
Star Encaustic Tile Co.,	Pittsburg
Tempest Brick Co., Ltd.,	McKeesport
The Willets Co.,	Pittsburg
Union Sewer Pipe Co.,	McKeesport
Walker Mill Stone & Brick Co.,	1504 Keenan Bld., Pittsburg
Ward, John H. & Son,	817 Penn Ave., Wilkinsburg
Weinman Bros.,	810 Southern Ave., Pittsburg
Wolf, Jos.,	1245 Washington St., Braddock
Woods, Lloyd Co.,	Pittsburg
Wynn & Starr,	32 St. P. R. R., Pittsburg
Yough Brick & Supply Co.,	McKeesport

ARMSTRONG COUNTY.

Clark Coal & Coke Co.,	202 2nd St., Nat'l Bank Bld., Freeport
Corbett, J. H.,	Mahoning
Daugherty Bros. Brick Co.,	Kittanning
DuBois & Butler Brick Co.,	DuBois
Ford City Brick Co.,	Ford City
Freeport Clay Products & Mineral Co.,	Freeport
Harbison-Walker Refractories Co.,	Pittsburg
Kittanning Brick & Fire Clay Co.,	715-718 Empire Bldg., Pittsburg
Kittanning Clay Manufacturing Co.,	Kittanning
Kittanning Clay Products Co.,	Bradford
United States Sewer Pipe Co.,	Frick Bldg., Pittsburg
Upper Kittanning Brick Co.,	44 E. 23d St., New York

OPERATOR.	P. O. ADDRESS.

BEAVER COUNTY.

Ambridge Brick Co.,	719 Westinghouse Bldg., Pittsburg
American Sewer Pipe Co.,	Akron, O.
Anderson, W. H.,	40 Norman St., Allegheny
Beaver Falls Art & Tile Co.,	Beaver Falls
Beaver Clay Manufacturing Co.,	New Galilee
Beaver Valley Pot Co.,	Rochester
Brighton Fire Brick Co.,	New Brighton
Darlington Brick & Mining Co.,	6366 Frankstown Ave., Pittsburg
Douglas Whistler Brick Co.,	Beaver Falls
Fallston Fire Clay Co.,	New Brighton
Glononger & Co.,	1507 Arrot Bld., Pittsburg
Howe, R. H.,	New Brighton
Ingram & Co.,	New Brighton
McLain Fire Brick Co.,	508 Fulton Bldg., Pittsburg
Miller Brick Co.,	Rochester
Pennsylvania Clay Co.,	Pittsburg
Smith, A. F. Co.,	New Brighton
Speer, J. Ramsay,	Pittsburg
Standard Fire Clay Co.,	New Brighton
Steffler & Brown,	Darlington
Vanport Brick Co.,	Farmers Bank Bldg., Pittsburg
Welch Bright Co.,	Monaca
Welch Clay Products Co.,	Beaver

BRADFORD COUNTY.

Savage Fire Brick Co.,	Johnstown
Saxton Vitrified Brick Co.,	Saxton

BERKS COUNTY.

Bieber, Wm.,	Kutztown
Brunbach, Guldin & Runyeon,	212 Jefferson St., Reading
Hamburg Vitrified Brick Co.,	2032 Land Title Bldg., Philadelphia
Glen Gery Brick & Cement Co.,	908 Colonial Bldg., Reading
Keiser, Geo.,	Topton
Kline, D. M.,	149 N. 8th St., Reading
Kline, Simon S.,	450 Boston Ave., West Reading
Montello Brick Co.,	Reading
Moyer & Co.,	725 Penn St., Reading
Reading Shale Brick Co.,	Box 252, Reading
Reading Fire Brick Works,	Reading
Reading Stove Liming & Sewer Pipe Works,	Front & Franklin St., Reading
Reading Terra Cotta Works,	Reading
Robinson, W. G.,	212 Jefferson St., Reading

OPERATOR.	P. O. ADDRESS.
Temple Brick Co.,	Temple
Tobias & Sheridan,	108 S. 4th St., Hamburg
Landis, Samuel G.,	Boyertown
Stimmel, Wm. F.,	242 Main St., Kutztown
West, Dodson & Co.,	Bethlehem

BLAIR COUNTY.

Altoona Brick & Tile Co., Ltd.,	1623 11th Ave., Altoona
Blair Silica Brick Co.,	802 Trinity Bldg., New York City
Eldorado Brick Co.,	Altoona
Penn Pressed Brick Co.,	1110 15th St., Altoona
Portage Brick Co.,	Hollidaysburg

BRADFORD COUNTY.

Athens Brick Co.,	Corning, N. Y.

BUCKS COUNTY.

Clymer, J. Warren,	Sellersville
Hagar, Wilson K.,	512 Vine St., Perkasie
Henkeroth, John H.,	Richland Center
Long, Geo. C.,	Doylestown
Long, Isiah B. & Bros.,	Doylestown
Moravian Pottery & Tile Works,	Doylestown
Price, Chas. H.,	Telford
Robertson Art Tile Co.,	Trenton, N. Y.
Umberger, Grant,	Langhorne
Neber, Frank & Son,	Perkasie
Weston, Dodson & Co.,	Bethlehem

BUTLER COUNTY.

Butler Brick & Tile Co.,	Butler
Glenn, Ralph R.,	West Sunbury
Mars Brick & Tile Co.,	Mars
Penn Clay Products Co.,	West Winfield
Pittsburg Callery Brick Co.,	631 Wabash Bldg., Pittsburg
Shull & Badger Brick Co.,	312 W. Penn St., Butler
Wick, L. C.,	Butler

CAMBRIA COUNTY.

Campbell, Bruce H. Co.,	Johnstown
Cambria Brick Yard,	Johnstown
Harbinson Walker Refractories Co.,	Pittsburg
Haws, A. J. & Sons, Ltd.,	Johnstown

OPERATOR.	P. O. ADDRESS.
Johnstown Face Brick Co.,	Room 208 Swank Bldg., Johnstown
Patton Clay Manufacturing Co.,	Patton
Smith, Wm. W.,	Mifflinsville
South Forks Fire Brick Co.,	South Fork
Swanks, Hiram, Sons,	1st & Maple Ave., Johnstown

CAMERON COUNTY.

Penn Vitrified Brick Co.,	Cameron

CARBON COUNTY.

Graves, H. A.,	Lehighton
Lehighton Brick Company,	121 First St., Lehighton

CENTER COUNTY.

Centre Brick Co.,	Howard
Center Brick & Clay Co.,	Overton
General Refractories Co.,	802 Trinity Bld., New York, N. Y.
Harbinson Walker Refractories Co.,	Pittsburg
Hays Run Fire Brick Co.,	Orviston
Howard Brick Co.,	Howard
Snow Shoe Brick Co.,	508 Fulton Bldg., Pittsburg
State College Brick Co.,	State College
Wallace Brick Co.,	Milesburg

CHESTER COUNTY.

Cassel, Jacob C.,	915 Arch St., Philadelphia
Floreys Brick Works,	East Downingtown
Graham Kaolin Co.,	Avondale
Guss, Henry R. Estate,	20 E. Market St., Chester
McAvoy Vitrified Brick Co.,	1345 Arch St., Philadelphia
Murphy, S. H.,	Kennett Square
Passmore, H. P.,	Oxford
Reilly, James D.,	West Chester

CLARION COUNTY.

Black Fox Brick Co.,	111 Market St., Pittsburg
Canton Tile Hollow Brick Co.,	New Bethlehem
Clarion Fire Brick Co.,	508 Fulton Bldg., Pittsburg
Climax Fire Brick Co.,	Climax
Heffner, H.,	Leeper
Sligo Fire Brick Co.,	1403 Arrott Bldg., Pittsburg

OPERATOR.	P. O. ADDRESS.

CLEARFIELD COUNTY.

Bickford Fire Brick Co.,	Curwensville
Clearfield Brick Manufacturing Co.,	Clearfield
Clearfield Clay Mining Co.,	Clearfield
Clearfield Fire Brick Co.,	Clearfield
DuBois Clay Manufacturing Co.,	DuBois
General Refractories Co.,	802 Trinity Bldg., New York City
Good, Geo. S., Fire Brick Co.,	Curwensville R. D.
Harbinson Walker Refractories Co.,	Pittsburg
Karthaus Fire Brick Co.,	Karthaus
Osceola Silica & Fire Brick Co.,	Osceola Mills
Thompson, Dr. E. M.,	Curwensville
Williams Grove Brick Co.,	Bigler
Wynn, W. H. & Co.,	West Decatur

CLINTON COUNTY.

Castena Brick & Tile Co.,	Lock Haven
Clinton Clay Co.,	Lock Haven
Eagle Brick Co.,	Lock Haven
Gates, Dr. W. D.,	Indiana
Gleasonton Fire Brick Co.,	Gleasonton
Harbinson Walker Refractories Co.,	Pittsburg
Lock Haven Fire Brick Co.,	Lock Haven
Mill Hall Brick Works,	Mill Hall
Pennsylvania Fire Brick Co.,	Beech Creek
The Queens Fire Brick Co.,	Lock Haven
Renova Fire Brick & Clay Manufacturing Co.,	Renova
West Branch Fire Brick Co.,	Renova
Williams, S. N.,	Williamsport

COLUMBIA COUNTY.

Bloomsburg Brick & Construction Co.,	Bloomsburg
Bloomsburg Brick Co.,	Bloomsburg

CUMBERLAND COUNTY.

Carlisle Brick Co.,	Carlisle
Cross & Shearer,	25 E. King St., Shippensburg
Leiby & Flurie,	New Cumberland
One Hundred Per Cent Brick Co.,	518 Real Estate Trust Bld., Philadelphia
Fuller Brick & Slate Co.,	Pine Grove Furnace

OPERATOR.	P. O. ADDRESS.

DAUPHIN COUNTY.

Bigler Sarah L., Estate,	North Cameron St., Harrisburg
Heatherman, Wm.,	Millersburg
Keener, J. C. & Sons,	Raee St., Middletown
Middletown Shale Brick Co.,	Colonial Trust Bldg., Reading
Speeceville Brick Manufaeturing Co.,	Speeeeville
Steelton & Harrisburg Brick Co.,	Steelton
Wagner, Clayton S.,	Union Deposit

DELAWARE COUNTY.

Aekerman, H. J.,	Morton
Aldan Brick Co.,	Aldan
Bricker & Bricker,	Land Title Bldg., Philadelphia
Carr & McClaskey,	6th & Engle St., Chester
Fields Brick Co.,	10th & Broomall, Chester
Harringan & Mink Briek Co.,	Llanwellyn
Holmes Brick Works,	Holmes
Ketchan Terra Cotta Works,	24 S. 7th St., Philadelphia
Law, M.,	1927 W. 3rd St., Chester
Ridley Park Brick Co.,	Ridley Park
Shee Rhoads,	Primos
Sullivan, John,	Lansdowne

ELK COUNTY.

Elk Fire Brick Co.,	St. Marys
Johnsonburg Vitrified Brick Co.,	Johnsonburg
Pennsylvania Fire Proofing Co.,	Downing Bldg., Erie
Ridgway Brick Co.,	Ridgway
Shawmut Clay Manufaeturing Co.,	Shawmut
Shawmut Vitrified Paving Brick Works,	Shawmut
St. Marys Sewer Pipe Co.,	St. Marys
Yingling Martin Brick Co.,	Johnsonburg

ERIE COUNTY.

Corry Brick and Tile Co.,	Corry
Dudenhoefer, Jas. & A.,	Erie
Dunn Brick Works,	Erie
Genk Bros.,	Erie
Glenwood Briek Co.,	Erie

FAYETTE COUNTY.

Coehran, W. H. Clay Produets Co.,	Dawson
Dinsmore Bros.,	Fayette City

OPERATOR.	P. O. ADDRESS.
Eureka Fire Brick Co.,	Mt. Braddock
Foltz, D. C., Brick Works,	Dunbar
Frick, H. C., Coke Co.,	Pittsburg
Harbinson, Walker Refractories Co.,	Pittsburg
Kier Fire Brick Co.,	Oliver Bldg., Pittsburg
Layton Fire Clay Co.,	McKeesport
Perry Manufacturing Co.,	Perryopolis
Rainey, W. J.,	527 5th Ave., New York
Royal Brick Co.,	Connellsville
Snider, Edward,	Uniontown
Soisson, Jos., Fire Brick Co.,	Connellsville
Star Brick Works,	Vanderbuilt
Uniontown Brick Co.,	Uniontown
Union Fire Brick Co.,	Uniontown
United Fire Brick Co.,	1st National Bank Bldg., Uniontown
Williams, J. V.,	240 Derrick Ave., Uniontown

FRANKLIN COUNTY.

Deter, Dece,	Chambersburg
Franklin Brick & Clay Co.,	Lewisburg
Lefevre, C. F.,	Waynesboro
Miller, Wm. H.,	Waynesboro
Spahr, Jas. B.,	W. Market St., Chambersburg
Walker, Scott B.,	Green Castle

GREENE COUNTY.

Waynesburg Brick & Stone Co.,	Waynesburg

HUNTINGDON COUNTY.

American Sewer Pipe Co.,	Akron, O.
Federal Refractories Co.,	1209 Rockefeller Bldg, Cleveland, O.
Harbinson Walker Refractories Co.,	Pittsburg
McIlroy Bros.,	1215 Oneida St., Huntingdon
Mt. Union Refractories Co.,	Mt. Union
Mt. Union Silica Brick Co.,	Mt. Union
Pennsylvania Industrial Reformatory,	Huntingdon

INDIANA COUNTY.

Bolivar Face Brick Co.,	Pittsburg
Clymer Brick & Fire Clay Co.,	Indiana
Garfield Fire Clay Co.,	Robinson
Kelly, Wm. P. Brick Co.,	Windber

OPERATOR.	P. O. ADDRESS.

JEFFERSON COUNTY.

Appian Brick Co.,	73 West Eagle St., Buffalo, N. Y.
DuBois & Butler Brick Co.,	DuBois
Humphrey Brick & Tile Co.,	Brookville
Meredith Brick Co.,	Reynoldsville
Punxsutawney Brick Co.,	Punxsutawney
Reynoldsville Brick & Tile Co.,	Reynoldsville
Reynoldsville Clay Manufacturing Co.,	East Main St., Reynoldsville
South Side Brick Works,	Punxsutawney
Sykesville Clay Product Co.,	Sykesville

JUNIATA COUNTY.

Juniata Brick & Tile Co., Ltd.,	Mifflin

LACKAWANNA COUNTY.

Laurie, James,	1133 Providence Road, Scranton
Stipp, Peter,	Scranton
Stipp, Mathias,	136 Wash. Ave., Scranton

LANCASTER COUNTY.

Bomberger, Wm.,	202 Pearl St., Lancaster
Christian Wise & Bros.,	826 Manor St., Lancaster
Ephrata Brick Co.,	Ephrata
Garber, D. L. & Son,	Maytown
Gohn, Chas. L.,	8th & Locust St., Columbia
Harding, Andrew,	Denver
Hostetter, E. F.,	Box 29, Manheim
Judeth, Geo.,	Quarryville
Mountville Brick Co.,	Mountville
Ponts, Adam,	778 E. Chestnut St., Lancaster
Pontz, Jacob,	517 N. Charlotte, Lancaster

LAWRENCE COUNTY.

Bessemer Limestone Co.,	Youngstown, O.
Carbon Brick Co.,	1524 Oliver Bldg, Pittsburg
Clydesdale Brick Co.,	Ellwood City
Croton Limestone & Brick Co.,	New Castle
Ellwood Brick & Limestone Co.,	Ellwood City
Neshannock Brick Co.,	71 W. Washington St., New Castle
New Castle Portland Cement Co.,	New Castle

LEBANON COUNTY.

Coleman B. Dawson,	Lebanon
Dressel, John,	203 East Walnut St., Lebanon

OPERATOR.	P. O. ADDRESS.
Hunsicker, John & Co.,	501 Cumberland St., Lebanon
Light, Samuel,	2nd & E. Lehman, Lebanon
Light, James E. Estate,	9th & Lehman St., Lebanon
Mt. Gretna Brick Co.,	Mt. Gretna
Peerless Brick Co.,	Lebanon

LEHIGH COUNTY.

Allentown Brick Co.,	523 Linden St., Allentown
Baker, John M.,	Allentown
Binder Bros.,	Emaus
Hausman, Wm. A.,	12th & Liberty St., Allentown
Lehigh Fire Brick Works,	Catasauqua
Mattern, Edward G.,	10th & Tilghman St., Allentown
Ochs Frey & Co.,	Allentown
Rader, Edward B.,	Coplay
Sensenbach Brick Co.,	207 2nd St., Allentown
Stump, Edward D.,	R. D. 6, Allentown
Swoyer Bros. Brick Co.,	Allentown
West End Brick Co.,	15th & Allen St., Allentown

LUZERNE COUNTY.

Bunnell, W. O.,	105 Coal Exchange, Wilkes-Barre
Diamond City Brick Co.,	Wilkes-Barre
Dickson, Geo. T. & Son,	Wilkes-Barre
Dorrance Terra Cotta Co.,	Forty Fort
Globe Real Estate Co.,	Scranton
Hutchins, John A. & Co.,	Wyoming
Nanticoke Brick Co.,	Green & Walnut St., Nanticoke
Schmitts, John A. Sons Brick Manufacturing Co.,	39 Bennett Bldg., Wilkes-Barre
Stipp, Mathias,	136 Washington Ave., Scranton
Wyoming Brick Manufacturing Co.,	Wyoming

LYCOMING COUNTY.

Burns Fire Brick Co.,	Williamsport
Michael, J. E.,	Muncy
Steumpfle's David Sons,	Williamsport
Waddle, M. B.,	Jersey Shore

McKEAN COUNTY.

Alumina Shale Brick Co.,	Room 2 Oil Exchange, Bradford
Bradford Paving Brick Co.,	Bradford
Bradford Press Brick Co.,	11 Main St., Bradford

OPERATOR.	P. O. ADDRESS.
Clermont Sewer Pipe Co.,	Clermont
Kane Brick Co.,	Kane
Kinzua Valley Paving Brick Co.,	Kushequa
Kushequa Brick Co.,	Kushequa
Kushequa Keramic Co.,	Kushequa
Melvin & Peterson,	20 Main St., Bradford
Pearl Clay Products Co.,	Davis Block, Bradford
Port Allegheny Brick Co.,	Port Allegheny
Tuna Valley Pressed Brick Co.,	Auerhaim Bldg., Bradford

MERCER COUNTY.

American Sewer Pipe Co.,	Bessemer Bldg., Pittsburgh
Cornelius, F. L.,	Grove City R. D. 12
Pittsburgh Silica Sand & Brick Co.,	Jackson Centre
Sharon Fire Brick Co.,	112 Vine St., Sharon

MIFFLIN COUNTY.

Macklin & Stevenson,	McVeytown

MONROE COUNTY.

Blue Ridge Enameled Brick Co.,	720 Prudential Bldg., Newark, N. J.
Chestnut Ridge White Brick Co.,	121 W. 42nd St., New York
Lehigh Clay Working Co.,	156 5th Ave., New York City
Pocono Brick Co.,	Scot Run
Smiley, Samuel P.,	Stroudsburg
Zacharias, Jos. H.,	E. Stroudsburg

MONTGOMERY COUNTY.

Buckwalter, Thomas & Co.,	Royersford
Chestnut Hill Brick Co.,	Plymouth
Davidheiser, F. B.,	390 Franklin St., Stowe
Enfield Pottery & Tile Works,	Enfield
Florey's Brick Works,	Roslyn
Fox, George M.,	Penbrook
Garber, Jos. S.,	422 Lincoln Ave., Pottstown
Miller, John,	Delphi
Montello Brick Co.,	Reading
Morgan Brick Co.,	Elm & Astor Sts., Norristown
Norristown Brick Co.,	Norristown
Philadelphia Terra Cotta Works,	620 Arch St., Philadelphia
Reed & Landis,	Pennsburg
Rogers & Co.,	Royersford
Romig, Jas. E.,	Roslyn

OPERATOR.	P. O. ADDRESS.
Roth, Adam E.,	Stowe
Scholl Bros.,	6th & Walnut St., Lansdale
Shankel, Emanuel K.,	Pennsburg
Spang, Joseph,	104 Scharlotte St., Pottstown
Sylvester, Gilinger & Bro.,	Barren Hill
Thompson & Willis,	Royersford
Vaughn, Edward,	West Point

MONTOUR COUNTY.

Keim, John,	Box 70, Riverside

NORTHAMPTON COUNTY.

Bingen Brick Co., Ltd.,	South Bethlehem
Groman Bros.,	342 Broadway, South Bethlehem
Messer, John B. Estate,	812 Grant St., S. S., Easton
Nazareth Brick Co.,	Nazareth
Raisner, B. & F.,	Bangor
West Easton Brick Co.,	Easton
Zehnder Brick Co.,	Easton

NORTHUMBERLAND COUNTY.

Hester, C. M.,	Watsontown
Fries, W. E.,	Milton
Miller Bros. & Mifflin,	Paxinos
Union Brick Co.,	Shamokin
Watsontown Brick & Clay Product Co.,	Watsontown

PHILADELPHIA COUNTY.

American Brick Manufacturing Co.,	238 Land Title Bldg., Philadelphia
Borgner, Cyrus E.,	234 N. 23rd St., Philadelphia
Boulter Manufacturing Co.,	234 N. 23rd St., Philadelphia
Byrne, Jos. T.,	29th & Clearfield St., Philadelphia
Byrne, Peter Estate,	2725 N. 20th St., Philadelphia
Carroll, H. C. & Sons,	67th St. and Gibson Ave., Philadelphia
Chestnut Hill Brick Co.,	Philadelphia
Conkling Armstrong Terra Cotta Co.,	24 South 7th St., Philadelphia
Conway, William,	5800 Walnut St., Philadelphia
Dougherty, Edward,	5th St. and Wyoming Ave., Philadelphia
Early, John H.,	Nicetown Lane & East St., Philadelphia
Equitable Brick Manufacturing Co.,	60th & Pine Sts., Philadelphia
Esseg & Myers,	2nd & Butler St., Philadelphia

OPERATOR.	P. O. ADDRESS.
Frankford Brick Works,	Ditman and Bridge Sts., Philadelphia
Galloway Terra Cotta Co.,	3216-24 Walnut St., Philadelphia
Gaynor, Michael,	Philadelphia
Gesner, Thomas H. & Son,	Philadelphia
Goodwin, John A.,	Hunting Park and Fox St., Philadelphia
Hatten Owen, Jr.,	9th St. and Fisher Lane, Philadelphia
Hyzer & Lewellen,	952 N. 9th St., Philadelphia
Jarden Brick Co.,	1433 Land Title Bldg., Philadelphia
Kolb, Geo. & Wm.,	Meadow & Jackson St., Philadelphia
Keystone Brick Co.,	16th and Butler Sts., Philadelphia
Kelly, John K.,	Philadelphia
Kelly, M. & Co.,	2945 N. 5th St., Philadelphia
Kelly, Christopher Estate,	Wyoming Ave. and B. St., Philadelphia
Lehigh Brick Co.,	230 Cambria St., Philadelphia
Linton Brick Co.,	25th and Passyunk Ave., Philadelphia
McHenry, James,	2310 Washington Ave., Philadelphia
Melcher & Zepp,	11th and Roy Sts., Philadelphia
McAvoy, T. B. Sons,	Kensington and Nicetown Lane, Philadelphia
McAvoy & Morris,	31st and Dickinson Sts., Philadelphia
Murtha, D. Charles,	16th and Butler Sts., Philadelphia
North Philadelphia Brick Works,	3rd and Luzerne Sts., Philadelphia
Philadelphia Brick Co.,	2518 Passyunk Ave., Philadelphia
Philadelphia Fire Brick Works,	2306 Vine St., Philadelphia
Ramsey, Richard C. Sons Co.,	Healey St. and Delaware River, Philadelphia
Ridge Ave., Pottery,	1334 Ridge Ave., Philadelphia
Rose, Thomas J. Brick Manufacturing Co.,	G. St. and Erie Ave., Philadelphia
Seitters, F. Sons,	Philadelphia
Siner, H. M. & C. B.,	Philadelphia
Tansey, Brick Co.,	2nd St., Pike & Godfrey, Philadelphia
United Brick Co.,	Philadelphia
Taylor, Robert & Co.,	Philadelphia
Webster & Keyser,	Philadelphia
Young, Chas. A.,	1928 Point Breeze Ave., Philadelphia

SCHUYLKILL COUNTY.

Auburn Shale Brick Co.,	Auburn
Pine Grove Vitrified Brick Co.,	2038 Land Title Bldg., Philadelphia
Schuylkill Press Brick Co.,	17 S. Center St., Pottsville
West Brook Brick Co.,	Pottsville

SNYDER COUNTY.

Welling, H.,	New York City

OPERATOR.	P. O. ADDRESS.

SOMERSET COUNTY.

Asbestine Manufacturing Co.,	Windber
Central Savage Brick Co.,	Rockwood
Duncombe, Geo. H.,	Myersdale
Excelsior Brick Co.,	Rockwood
Kelly, Wm. P. Brick Co.,	Windber
North Savage Fire Brick Works,	1507 Arrot Bldg., Pittsburg
Otto, D. D.,	Springs
Savage Fire Brick Co.,	Johnstown
United Fire Brick Co.,	1st National Bank Bldg., Uniontown

SUSQUEHANNA COUNTY.

Barnwood Brick & Tile Co.,	315 Board of Trade Bldg., Scranton

UNION COUNTY.

Lewis Brick Manufacturing Co.,	Lewisburg

VENANGO COUNTY.

Franklin Shale Brick Co.,	Franklin
Ridge View Sand Co.,	Oil City

WARREN COUNTY.

Buck, Wm. R.,	Chandlers Valley
Highhouse's E. Sons,	Warren R. D. 4
Slater & King,	Youngsville
Youngsville Brick & Tile Co.,	Bradford

WASHINGTON COUNTY.

Bessener Coke Co.,	709 Oliver Bldg., Pittsburg
California Clay Manufacturing Co.,	Charleroi
Cannonsburg Brick Works,	Cannonsburg
Courtney Fire Brick Co.,	Courtney
Donley Brick Co.,	Washington
Ellsworth Collieries Co.,	Ellsworth
Findlay Clay Pot Co.,	Findlay, O.
Latrobe Brick Co.,	Latrobe
Lock Four Brick Co.,	Charleroi
Macbeth Evans Glass Co.,	Pittsburg
Monongahela Clay Manufacturing Co.,	Monongahela
Refractory Fire Brick Co.,	Murdock Bldg., Washington
Washington Brick Co.,	Washington

OPERATOR.	P. O. ADDRESS.

WESTMORELAND COUNTY.

Allegheny Brick Co.,	408 6th Ave., Tarentum
Gallagher Bros.,	Greensburg
Gardner, Jas. R., Co.,	Washington St., Bolivar
Gratztown Brick Works,	Amyville
Grays, A. J.,	Branch
Jeanette Brick & Stone Co.,	Jeanette
Keystone Clay Products Co.,	Greensburg
Kier Fire Brick Co.,	Oliver Bldg., Pittsburg
Latrobe Brick Co.,	Latrobe
Lincoln Fire Brick & Shape Co.,	1103 Farmers Bank Bldg., Pittsburg
Livengood, A. S.,	Scottdale
Monessen Brick Works,	Monessen
National Refractories Co.,	Apollo
Pennsylvania Branch Brick Co.,	1367 Frick Bldg., Pittsburg
Phoenix Clay Pot Co.,	New Kensington
Phoenix Fire Brick Co.,	Bolivar
Salina Fire Brick Co.,	Greensburg
Seward Gray Brick Co.,	1110 Penn Sq., Philadelphia
Soisson, Jos. Fire Brick Co.,	Connellsville
Westmoreland Brick Co.,	2nd National Bank Bldg., Pittsburg
White Brick Co.,	New Kensington

YORK COUNTY.

Ahrens Brick Co.,	York
Alwine Bros.,	Spring Grove
Brillhart, J. S.,	Porters Siding
Dillsburg Clay Products Co.,	Dillsburg
Gise & Diehl Press. Brick Co.,	8 E. Market St., York
Grothe, Wm. H.,	Rear 262 E. College St., York
Hollywood Brick Co.,	Guardian Trust Bldg., Hollywood Sta., N. Y.
Kissingers, Benj. Sons,	Rouse St., York
Manchester Shale Brick Co.,	Market St., Harrisburg
Miller, C. E.,	Prospect St., York
Snyder, E. H.,	Centennial Ave., Hanover
Spring Garden Brick Co.,	887 E. Market St., York
Stony Brook Slate & Brick Co.,	Stony Brook
Weitzel, George B.,	Wrightville
York Shale Press Brick Co.,	21 W. Princess St., York
Zeigler, Eli H.,	Stewartstown

POTTERY.

OPERATOR.	P. O. ADDRESS.
ARMSTRONG COUNTY.	
Pennsylvania China Company,	Ford City
BEAVER COUNTY.	
American Porcelain Co.,	New Brighton
Elverson, W. H., Pottery Co.,	New Brighton
Keystone China Co.,	New Brighton
Mayer China Co.,	Beaver Falls
Sherwood Bros. Co.,	New Brighton
BUCKS COUNTY.	
Diehl, Wm. H.,	Richland Center R. D. 4
Lock, Frank C.,	Newtown
Newtown Pottery,	Newtown
CHESTER COUNTY.	
Scofield, Wm.,	Honey Brook
Cope, Witmer and Bros.,	Lincoln University
CLARION COUNTY.	
Hawthorne Pottery Co.,	Hawthorne
COLUMBIA COUNTY.	
Bloomsburg Pottery,	Bloomsburg
DELAWARE COUNTY.	
Chester Pottery,	414 Wilson St., Chester
FAYETTE COUNTY.	
Robbins, Arthur,	New Geneva
HUNTINGDON COUNTY.	
Greenland, N. W.,	Cassville
Hyssong, C. B.,	Cassville
LANCASTER COUNTY.	
Hardy, Edward V.,	914 Manor St., Lancaster
Swope, Geo. A.,	27 N. Mary St., Lancaster

OPERATOR.	P. O. ADDRESS.

LAWRENCE COUNTY.

Shenango Pottery Co.,	New Castle
Universal Sanitary Mfg. Co.,	New Castle

LUZERNE COUNTY.

Ryan, James,	440 N. Main St., Pittston

MIFFLIN COUNTY.

Dipple, A. G.,	234 Valley St., Lewistown

MONTGOMERY COUNTY.

Enfield Pottery & Tile Works,	Enfield
Keller Pottery Co.,	219 Pearl St., Norristown
Medinger, Jacob,	Neiffer

PHILADELPHIA COUNTY.

Galloway Terra Cotta Co.,	32 Walnut St., Philadelphia
Peerless Pottery Co.,	Westmoreland & Tulip St., Philadelphia
Philadelphia Pottery Co.,	Philadelphia
Yellow Rock Pottery Co.,	Clementine & Mercer St., Philadelphia

WASHINGTON COUNTY.

Cannonsburg Pottery Co.,	Cannonsburg

WESTMORELAND COUNTY.

The Pittsburgh High Voltage Insulator Co.,	Derry

YORK COUNTY.

Pfaltzgraff Pottery Co.,	York

CLAY MINES.

OPERATOR.	P. O. ADDRESS.

ADAMS COUNTY.

Hornberger, Wm.,	Littletown

ALLEGHENY COUNTY.

Harbison Walker Refractories Co.,	Pittsburg
Hite Fire Clay Co.,	204 Fifth Ave., Tarentum

ARMSTRONG COUNTY.

Daugherty Bros.,	Kittanning
Kittanning Clay and Manufacturing Co.,	Kittanning
Reynolds, Mrs. Withington,	Kittanning

BEAVER COUNTY.

Brighton Fire Brick Co.,	New Brighton
Butler, Richard,	New Brighton
Carr, J. W.,	New Brighton
Park, N. J.	627 10th Ave., New Brighton
McLain Fire Brick Co.,	508 Fulton Bldg., Pittsburg
Robertson, Wm. & Son,	New Brighton R. F. D.
Shell, Wm. A.,	Cannelton
Smith, A. F. Co.,	New Brighton
Standard Fire Clay Co.,	New Brighton
Thompson, Andrew,	New Brighton
Watson, David,	New Brighton
Welch Bright Co.,	Monaca
White, J. B.,	Cannelton
Wilson, Thomas S.,	New Brighton

BEDFORD COUNTY.

Duncan, Peter S.,	Ore Hill

BERKS COUNTY.

Atlas Mineral & Machine Co.,	Lineoln, N. J.
Blandon Clay Co.,	582 Bourse St., Philadelphia
Boyer, Jacob S.,	Berne
Kenmerer, John Lesse, Reuben Dunkle Prop.,	Blandon
Reading Fire Brick Works,	Reading
Reading Quarry Co.,	Temple
Star Clay Co., Ltd.,	Mertztown
Thalheimer, A.,	143 Cedar St., Reading
Yoder, F. H., Reading White Clay Co.,	Longswamp

OPERATOR.	P. O. ADDRESS

BLAIR COUNTY.

Page, James A.,	Mineral Point
Woodbury Land Co.,	Hollidaysburg

BRADFORD COUNTY.

Hunt, P. L.,	Laws Bldg., Sayre

BUCKS COUNTY.

Applegate, Joseph H.,	Trenton, N. J.
Diehl, Wm. H.,	Box 28, Richland Center, R. D. 4.

CAMBRIA COUNTY.

Alexander Fire Clay Co.,	Alexandria
Blewett, Chas.,	303 Somerset St., Johnstown
Citizens Coal Co.,	Johnstown
Harbison Walker Refractories Co.,	Pittsburg
Morgret, R. G.,	309 Somerset St., Johnstown
Morrellville Coal Mine Co.,	Broad & Chestnut St., Philadelphia
Page, James A.,	Mineral Point
Page Reighard Mining Co.,	Mineral Point
Patton Clay Manufacturing Co.,	Patton
Stineman Coal & Coke Co.,	421 Chestnut St., Philadelphia
Wicks, C. A. & J. H.,	Main St., South Fork

CENTER COUNTY.

General Refractories Co.,	Sandy Ridge
Harbison Walker Refractories Co.,	Pittsburgh
Summit Clay Manufacturing Co.,	Oseeola Mills

CHESTER COUNTY.

Becker, Dr. Theodore,	4958 Chestnut St., Philadelphia
Becker, Wm. A.,	Kennett Square
Lacy & Graham Co.,	Kennett Square
Phillipi Mora, (Girard Trust Co.),	Philadelphia

CLARION COUNTY.

Baker, Frank M.,	Huefner
Mayport Clay Co.,	1403 Arrott Bldg., Pittsburgh
Massillon Stone & Fire Brick Co.,	Massillon, O.
Niles Fire Brick Co.,	Niles, O.
O'Neill, Henry & Co.,	Lucinda
McWilliams, Mrs. Catherine,	Hawthorne

OPERATOR.	P. O. ADDRESS.

CLEARFIELD COUNTY.

Bickford Fire Brick Co.,	Curwensville
General Refractories Co.,	Sandy Ridge
Good, Geo. S., Fire Brick Co.,	Curwensville R. D.
Harbison Walker Refractories Co.,	Pittsburg
Morgan Run Fire Clay & Coal Co.,	Mill Creek
Sharon Fire Brick Co.,	Sharon
Williamsgrove Brick Co.,	Bigler
Wynn, W. H. & Co.,	West Decatur

CLINTON COUNTY.

Clinton Mining Co.,	Water St., Lock Haven
Gleasonton Fire Brick Co.,	Gleasonton
Harbison Walker Refractories Co.,	Pittsburg
Lock Haven Fire Brick Co.,	Lock Haven
Pennsylvania Fire Brick Co.,	Beech Creek
Queens Fire Brick Co.,	Water St., Lock Haven
Renova Fire Brick and Clay Manufacturing Co.,	Renova
Rock Cabin Coal and Clay Co.,	Lock Haven
Scootac Mining Co.,	Williamsport
West Branch Fire Brick Co.,	Renova

CUMBERLAND COUNTY.

Boiling Springs Mineral Co.,	Boiling Springs
Carlisle China Clay Products Co.,	1002 Real Estate Trust Bldg., Philadelphia
Cumberland Clay Co.,	Mt. Holly Springs
Divan Holly Sand Co.,	2152 Woodstock St., Philadelphia
Harrisburg Clay Co.,	Harrisburg
Lehman, J. C.,	Box 40, Boiling Springs
Philadelphia Clay Co.,	1201 Chestnut St., Philadelphia
Valley Sand Co.,	Chambersburg
York Clay Co., Ltd.,	York

ELK COUNTY.

Elk Fire Brick Co.,	St. Marys

FAYETTE COUNTY.

Eureka Fire Brick Co.,	Mt. Braddock
Harbison Walker Refractories Co.,	Pittsburg
Monongahela Stone Clay and Brick Co.,	Monongahela
Perry Manufacturing Co.,	Perryopolis
Springer, A. M.,	Coal Spring

OPERATOR.	P. O. ADDRESS.

FRANKLIN COUNTY.

Lehman, Amos B.,	Fayetteville

GREENE COUNTY.

Gabler, B. F. & Son,	Greensboro

HUNTINGDON COUNTY.

Alexandria Fire Clay Co.,	Alexandria
Altoona Sand Clay and Iron Ore Co.,	Altoona
Harbison Walker Refractories Co.,	Pittsburgh
Smith, J. O.	Calvin

INDIANA COUNTY.

Bolivar Face Brick Co.,	Bolivar
Garfield Fire Clay Co.,	Robinson
Wehrl, R. W.,	Indiana

LANCASTER COUNTY.

Binkley, A. E.,	Neffsville
Diller Sand and Clay Co.,	61 N. Duke St., Lancaster
Paxson, J. W. Co.,	1021 N. Delaware Ave., Philadelphia
Pennsylvania Mineral Co.,	627 Real Estate Trust Bldg., Philadelphia
Silicon Products Co.,	142 N. Queen St., Lancaster
Whitaker Clay Co.,	Nervon

LAWRENCE COUNTY.

Byran, J. C.,	New Castle R. D. 5
Croton Limestone and Brick Co.,	New Castle
Ellwood Brick Co.,	Ellwood City
New Castle Limestone and Clay Co.,	New Castle
New Castle Portland Cement Co.,	New Castle
Rose Point Stone and Lime Co.,	New Castle

LEHIGH COUNTY.

The Keystone Fire Clay and Brick Co.,	Catasauqua
Lehigh Fire Brick Works,	Catasauqua
Star Clay Co.,	Mertztown

LYCOMING COUNTY.

Burns Fire Brick Co.,	Williamsport

McKEAN COUNTY.

Mt. Jewett Clay Co.,	Mt. Jewett

OPERATOR.	P. O. ADDRESS.

MERCER COUNTY.

Shenango Clay Co.,	New Castle

MONROE COUNTY.

Ettie Kaolin Mill and Mining Co.,	79 7th Ave., Brooklyn, N. Y.
Gilbert Clay and Sand Co.,	Saylorsburg

MONTGOMERY COUNTY.

Enfield Pottery and Tile Works,	Enfield
Hallman, Henry F.,	Conshohocken R. D. 2
Hoskins, O. C.,	Norristown
Karr, Wm. T.,	Conshohocken R. D. 2
Keys, Geo. W.,	Conshohocken R. D. 2.
Penn, Wm., Silica Works,	William Penn
Rogers Co.,	1st Ave., Rogersford
Tracy, Frank L.,	Conshohocken

SOMERSET COUNTY.

Merchants Coal Co.,	Bank for Savings Bldg., Pittsburg
North Savage Fire Brick Works,	1507 Arrott Bldg., Pittsburg
Savage Fire Brick Co.,	Keystone Junction

TIOGA COUNTY.

Golden Bros.,	Blossburg
Morrison Run Coal Mining Co.,	804 2nd Nat. Bank Bldg., Wilkes-Barre

UNION COUNTY.

Franklin Brick and Clay Co.,	Lewisburg

WESTMORELAND COUNTY.

Christner, C. J.,	Scottdale
Coulter, Mrs. Agnes,	116 Washington St., Bolivar
Gratztown Brick Works,	Amyville
Kier Fire Brick Co.,	Oliver Bldg., Pittsburg
Livengood, A. S.,	Scottdale
Saffer, Joseph,	Youngstown
Seward Gray Brick Co.,	110 Penna. Sq. Bldg., Philadelphia
Salina Fire Brick Co.,	Greensburg
Westmoreland Brick Co.,	2nd Nat'l Bank Bldg., Pittsburg

YORK COUNTY.

Huron Product Co.,	1036 Real Estate Trust Bldg., Philadelphia
Sheaffer, Henry,	Dillsburg R. D. 1
York Shale Press Brick Co.,	21 W. Princess St., York

SAND - LIME - BRICK

SAND - LIME - BRICK

The production of Sand Lime Brick in the United States, seems to be on the decline. The maximum output was in 1907, when there were 94 producers, and the value of the brick made was $1,225,769. Since then the output has fallen, until in 1911 they were but 66 producers, and the total output had a value of but $897,664.00.

In Pennsylvania in 1910, there were 4 producers making common brick, only, with a combined output of $72,827. In 1911 the number of producers fell below 3 and, therefore, the details of the production cannot be disclosed.

LIST OF PRODUCERS OF SAND LIME BRICK.

BRADFORD COUNTY.

Federal Granite Brick Co., ... 305 Mears Bldg., Scranton

BLAIR COUNTY.

Pennsylvania Pressed Brick Co., ... 1110 15th St., Altoona

DAUPHIN COUNTY.

Hummelstown Brownstone Co., ... Waltonville

LACKAWANNA COUNTY.

Federal Granite Brick Co., ... Scranton
Moscow Sand and Gravel Co., ... 313 Lackawanna Ave., Scranton

POTTER COUNTY.

Metalic Brick Co., ... Genesee

Topographic and Geologic Survey

OF

Pennsylvania

RICHARD R. HICE, State Geologist.

REPORT NO. 8 E

The Mineral Production of Pennsylvania, 1911

Quarry Products, Granite, Trap Rock, Sandstone, Blue Stone, Marble, Limestone, Lime

TOPOGRAPHIC AND GEOLOGIC SURVEY COMMISSION.

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QUARRY PRODUCTS

QUARRY PRODUCTS

In 1910 the stone quarries of Pennsylvania produced $8,621,937 *a* in value, the State ranking first, with 11.27 per cent. of the total output. In 1911 the total value was $8,147,505, still ranking first in the value of the output, with 10.59 per cent. of the whole.

The following table gives in brief the stone output for the years 1910 and 1911.

VALUE OF STONE PRODUCED IN PENNSYLVANIA IN 1910 AND 1911.

Year.	Granite.	Trap Rock.	Sandstone. b	Marble.	Limestone.	Total.
1910,	$478,919	$970,823	$1,595,070	c$182,514	$5,394,611	$8,621,937
1911,	491,428	864,810	1,333,309	214,913	5,243,045	8,147,505

b. Includes "blue stone."
c. Includes Maryland in 1910.

Comparison of the statistics of the production of building and crushed stone for the years 1901-1911 shows a marked change in the proportion of each used. In these years the value of building stone has remained almost stationary, while that of crushed stone has increased almost three and one half times. The following table shows the figures of production for each class of stone in the United States for the years 1901-1911.

TABLE OF VALUE OF PRODUCTION OF BUILDING STONE AND CRUSHED STONE, 1901-1911.

	Building stone.	Crushed stone.
1901,	$15,112,600	$8,566,432
1902,	20,790,341	11,480,959
1903,	19,795,491	13,188,938
1904	18,883,455	15,530,122
1905,	20,240,809	16,419,614
1906,	20,681,625	17,467,486
1907,	16,675,811	22,054,297
1908,	16,040,630	20,262,012
1909,	17,594,455	24,078,780
1910,	16,105,856	27,264,535
1911,	16,436,341	28,406,425

It is to be noted that the value of the crushed stone has uniformly increased each year, with the exception of 1908, when the decline was due to the general depression of business.

a Including a small quantity of marble quarried in Maryland.

The following table gives the value of the crushed stone in Pennsylvania for the years 1910 and 1911, and the various purposes for which the same was used.

PRODUCTION OF CRUSHED STONE IN PENNSYLVANIA, 1910-1911.

	Road Making.		Railroad Ballast.		Concrete.		Total.	
Year	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1910.	1,417,111	$816,783	1,873,673	$1,024,600	1,328,448	$791,318	4,619,232	$2,632,701
1911.	1,628,923	1,006,014	1,534,424	843,166	1,324,782	792,440	4,488,129	2,641,620

GRANITE

GRANITE

There was but little change in the value of the granite production of Pennsylvania in 1911 as compared with that of 1910. The following table shows the value of the granite production of the State for the years 1907-1911.

Value of granite produced in Pennsylvania, 1907-1911.

1907,	$366,679
1908,	324,241
1909,	507,814
1910,	478,919
1911,	491,428

The various forms in which this output was sold during the years 1910 and 1911 is shown by the following table:

VALUE AND USES OF GRANITE PRODUCED IN PENNSYLVANIA, 1910-1911.

Year.	Rough.					Dressed. for building.	Dressed. for monumental.	Paving. blocks.
	Building.	Monumental.	Rubble.	Riprap.	Other.			
1910,	$262,913	$4,059	$9,262	$21,743	$35,854	$51,381	$23,842	$20,452
1911,	265,343	14,224	18,081	12,052	23,106	83,258	94	17,842

	Curbing.	Flagging.	Crushed Stone.			Other.	Total.
			Road. Making.	Railroad Ballast.	Concrete.		
1910,	$6,068	----------	$7,168	$758	$35,138	$281	$478,919
1911,	10,122	55	22,958	----------	24,393	----------	491,428

DIRECTORY OF GRANITE PRODUCERS.

BERKS COUNTY.

OPERATOR.	P. O. ADDRESS.
Walker Granite Co.,	Alburtis R. D. No. 1.

BUCKS COUNTY.

Darrah Bros.,	Langhorne.
Moore James,	Rich Hill.
Livingston Joseph,	Langhorne.
Ridge, David V.,	Langhorne.
Trevose Manor Land Company,	Trevose.

CHESTER COUNTY.

OPERATOR.	P. O. ADDRESS.
Brinton, Joseph H.,	West Chester.
Corcoran Construction Co.,	West Chester.
French Creek Granite Co.,	St. Peters.
Hanna Stone Co.,	Law Bldg., Chester.
Johnson, David M.,	Chester.
Pennsylvania Marble & Granite Co.,	West Grove.
Williams, W. K. (M. D.)	Phoenixville.

DELAWARE COUNTY.

Burlein, Earnest,	5570 Market St., Philadelphia.
Chester Stone Co.,	1235 Chestnut St., Philadelphia, Pa.
Evans, Charles,	Garrettsford.
Fields, B. F., Lessee,	Lima.
Gillespie & Sons,	Oakview.
Hilbert, Jesse,	Lima.
Hayden, Wm. T.,	Bryn Mawr.
Hill, W. V.,	Morton.
Johnston, Geo. J.,	Morton.
Lane, Moses R.,	Ardmore.
Lee, Thos. E.,	5629 Cherry St., Philadelphia
Leiper, Geo. G.,	Chester.
Leiper, Collender I.,	Swarthmore.
Logue, James,	Llanerch.
Mahoney, Patrick,	Lansdowne.
Mauro, R. M. Estate,	Ridley Park.
Mt. Zion Cemetery Co.,	Darby
Pasquole, Paul and Sons,	Swarthmore.
Pasquole, Paul and Sons,	Avondale.
Sipple, Thos. H.,	Darby
Worrell, Penrose B.,	Lima.
Ward's, Jos. W. Son,	Ridley Park.

LANCASTER COUNTY.

Mayer, J. H.,	Willow street.

LEHIGH COUNTY.

Birdsboro Stone Co.,	614 Bulletin Bldg., Philadelphia.

MONTGOMERY COUNTY.

Bosler, C. W.,	Ogontz.
Birdsboro Stone Co.,	614 Bulletin Bldg., Philadelphia.
Clayton. S. Luther,	Edge Hill.
Edgehill Silica Rock Co.,	New Brunswick, N. J.

OPERATOR.	P. O. ADDRESS.
Miller, James S.,	Sumneytown.
Philadelphia and Conshohocken Stone Quarry Co., 14 S. Broad St., Philadelphia, 306 Rothchild Bldg.	
Paxon, J. W. & Co.,	1021 N. Delaware Ave., Philadelphia.
Wolf, Morris W.,	Jenkinstown.
West Conshohocken Stone Co.,	Bridgeport.

PHILADELPHIA COUNTY.

Byrd, W. M.,	53 Girard St., Germantown.
Coles, Geo. W., Mermaid Lane and Germantown,	Chestnut Hill.
Eldridge, Levi,,	6726 State Road, Tacony, Philadelphia.
Fowler, J. W.,	Johnson and Penn Sts., Philadelphia.
Fowler, J. W.,	103 W. Horter St., Philadelphia.
Gucker, Thomas, Jr.,	Hartwell Ave. & 25th St., Chestnut Hill.
Homewood, James F.,	Mermaid Lane & Germantown Ave., Phila.
Holmesburg Granite Co.,	112 N. Broad St., Philadelphia.
House of Correction, Employment and Reformation,	Holmesburg.
Lee, T. P.	5629 Cherry St., Philadelphia.
Lee, Thos. E.,	5629 Cherry St., Philadelphia.
Lafayette Granite Quarry,	126 S. 9th St., Philadelphia.
Mullen, James A.,	5512 Vine St., Philadelphia.
McMahon, David,	P. O. Bldg., Germantown.
O'Neill, Jerry & Co.,	7811 Germantown Ave., Philadelphia.
Pearce Granite Co.,	510 Betz Bldg., Philadelphia.
Vincent, Capelo,	Frankford.

TRAP ROCK

TRAP ROCK

The trap rock production is mainly used as crushed stone. The following table shows the value of the output used for the several purposes in the years 1910 and 1911.

VALUE OF TRAP ROCK PRODUCED IN PENNSYLVANIA, 1910-1911.

Year.	Building.	Paving.	Crushed Stone.			Other.	Total.
			Road. Making.	Railroad. Ballast.	Concrete.		
1910,	$29,885	$440	$288,415	$405,099	$243,514	$3,410	$970,823
1911,	27,122	2,100	353,573	321,333	159,740	942	864,810

DIRECTORY OF TRAP ROCK PRODUCERS.

ADAMS COUNTY.

OPERATOR.	P. O. ADDRESS.
Zeigler, C. W. & Co.,	Gettysburg.

BERKS COUNTY.

Birdsboro Stone Co., ... 614 Bulletin Bldg., Philadelphia.
Cumru Twp., Servis G. Fisk, ... Reading.
Dyer, John T. Quarry Co., ... Norristown.
Silverdale Crusher Co., ... R. F. D. 6, Pottstown.

BUCKS COUNTY.

Barndt, Enos, ... Cressman.
Cressman Stone Quarry Co., ... Cressman.
Frankenfield, Aaron, ... Bridge Valley.
General Crushed Stone Co., ... Easton.
Heaney, M. L., ... Point Pleasant.
Lukens & Yerkes, ... 924 Stephen Girard Bldg., Philadelphia.

CAMBRIA COUNTY.

Cooper, A. B., ... Johnstown.

CHESTER COUNTY.

Comog Trap Rock Construction Co., ... Glen Moore.
Taylor J. Walker, ... Kennett Square.
West Chester Boro, ... West Chester.

DAUPHIN COUNTY.

Riley, John W., ... Fort Hunter.

DELAWARE COUNTY.

Donovan, James, ... Lima.
Dyer, John T., Quarry Co., ... Norristown.
General Crushed Stone Co., ... Easton.
Johnson, R. H. and Co., ... Wayne.
Levi, Lewis, ... Radnor.

HUNTINGDON COUNTY.

Water Street Trap Rock Co., ... Water Street.

NORTHUMBERLAND COUNTY.

Susquehanna Stone Co., ... Williamsport.

MONTGOMERY COUNTY.

Davis Trap Rock Quarry Co., 119 N. Broad St., Parway Bldg., Philadelphia.
Fisher, Henry, ... Green Lane.
Green Lane Ice & Stone Co., ... Green Lane.
Janett, T. H., ... Bethayers.
Mensch, S. H., ... 421 King St., Pottstown.
Perkiomen Crushed Stone Co., 9th St., below Girard Ave., Philadelphia.
Stalnecker, T. Y., ... Green Lane.
Wolff, Morris W., ... Jenkinstown.

MONTOUR COUNTY.

Dauth, John P., ...18 S. 8th St., Reading.

PERRY COUNTY.

Dyer, John T. Quarry Co., ... Norristown.

YORK COUNTY.

Berlin & Hanover, ... Hanover.
York Haven Water & Power Co., ... Lock Haven.

SANDSTONE

SANDSTONE

The following table gives the total value of the sandstone (including "blue stone") produced in Pennsylvania for the years 1907-1911.

VALUE OF SANDSTONE (INCLUDING BLUE STONE) PRODUCTION OF PENNSYLVANIA, 1907-1911.

1907, ...	$2,064,913
1908, ...	1,368,784
1909, ...	1,637,794
1910, ...	1,595,070
1911, ...	1,333,309

The value of the sandstone used for the various purposes is shown by the following table for the years 1910 and 1911.

VALUE OF THE SANDSTONE PRODUCTION OF PENNSYLVANIA 1910 AND 1911, BY USES

Year.	Rough Building.	Dressed Building.	Ganister.	Paving.	Curbing.	Flagging.	Rubble.	Riprap.
1910,	$292,751	$281,020	$274,645	$24,817	$159,903	$117,737	$101,240	$31,872
1911,	203,989	218,153	163,574	35,872	172,202	93,812	102,788	34,328

	Crushed Stone.			Other.	Total.
	Road Making.	Railroad. Ballast.	Concrete.		
1910,	$111,537	$123,741	$57,305	$18,392	$1,595,070
1911,	69,271	130,895	98,010	10,415	1,333,309

DIRECTORY OF SANDSTONE PRODUCERS.

ALLEGHENY COUNTY.

OPERATOR.	P. O. ADDRESS.
Braddock Stone & Contracting Co.,	North Braddock.
Central Brick Co.,	904 Diamond Bank Bldg., Pittsburg.
Clyde Coal Co.,	4 Smithfield St., Pittsburg.
Englert, C.,	Fair Haven.
Enterprise Brick & Stone Co.,	36 Wilkinsburg Bank Bldg., Wilkinsburg.
Feick, Charles,	Finleyville.
Fink, George,	Fairhaven.
Fox, Jas. T.,	121 Walnut St., Pittsburg.

OPERATOR.	P. O. ADDRESS.
Iron City Brick & Stone Co.,	Stanton Ave., Pittsburg.
Jeffries, David O.,	149 Youghiogheny Ave., McKeesport.
Melcher Bros.,	759 Fourth St., Braddock.
Miller, John,	Thomas St., Pittsburg.
Miller Brick & Stone Co.,	1030 Woods Run Ave., Pittsburg.
Minsinger Co.,	Cor. Hill St. and Third Ave., Pittsburg.
Parnham, James,	Clairton.
Schenk, Conrad,	Pittsburgh.
Soles, Anderson,	615 Pearl St., McKeesport.
Vierheller, Albert,	73 Sylvania Ave., Pittsburg.
Walkers Mills Stone & Brick Co.,	Walkers Mills.
Ward, John H and Sons Co.,	Oakland and Batavia St., Wilkinsburg.
Weber, Geo.,	600 Matilda Ave., Pittsburgh.
Weinman Bros.,	Southern Ave., Pittsburg.
Weyers, H. A.,	1486 Fairlawn, Pittsburg.
Wolf, Joseph,	Braddock.

ARMSTRONG COUNTY.

Hilty, Algie R.,	Apollo
Marshall, B. P.,	Dayton.
Meredith, T. T.,	Widnoon.
Most, Fred,	Rimer.

BEAVER COUNTY.

Clydesdale Stone Co.,	2326 Oliver Bldg., Pittsburg.
Flocker, T. M.,	Vanport.
Kimberly Stone Co.,	Ellwood City.
Marquis, David,	Beaver Falls.
Pittsburgh Construction Co.,	821 Fulton Bldg., Pittsburg.
Potter, J. P.,	Monaca.
Skillen, C. F.,	Ellwood City.
Smith, A. F. & Co.,	New Brighton.
Zeigler Geo. H.,	Beaver R. D. 3.

BEDFORD COUNTY.

Evans, F. T., Adm. and Mgr.,	203 Humbert St., Cumberland, Md.
United Fire Brick Co.,	Uniontown.

BERKS COUNTY.

Griegley, C.,	Birdsboro.
Schounaner, H. L.,	Gonglersville.
Wanner, P. D.,	Reading.
Wolf, John W.,	Geigers Mills.

BLAIR COUNTY.

OPERATOR.	P. O. ADDRESS.
Duncan, P. S.,	Hollidaysburg.
Hartman, J. L.,	Hollidaysburg.
Pennsylvania Pressed Brick Co.,	1110 15th St., Altoona.
Stine, J. W.,	429 East Crawford Ave., Altoona.

BRADFORD COUNTY.

Capwell, E. H. and Son,	Wyalusing.

BUCKS COUNTY.

Achey, M. F. and Son,	Milford Square.
Alder, Isaac L.,	Telford.
Collucci & Zarling,	Quaker Falls.
Eastburn, Charles T. and Co.,	Yardley.
New Jersey and Pennsylvania Traction Co.,	Trenton, N. J.
Fulmer, Solomon,	Point Pleasant.
Mill Creek Quarry Co.,	Rushland.
Mitchell, John H.,	Newton.
Moody, William W.,	Ogontz.
Telford Quarry Co.,	Telford.

BUTLER COUNTY.

Heim, Martin,	382 Zeigler Ave., Butler.
Hobaugh, John S.,	Box 2, Butler.
McQuirk, Thos. H.,	Box 297, Butler.
Morris, A. G. and Son,	611 Empire Bldg., Pittsburgh.
New Kensington Stone Co.,	Mead St. & P. R. R., Wilkinsburg.
Shaffner, Geo.,	Lookout Ave., Butler.

CAMBRIA COUNTY.

Cella, William,	Dean.
Cooper, A. B.,	118 Cooper Ave., Johnstown.
Johnstown Face Brick Co.,	Johnstown.
Sims, Chas. A. and Co.,	714 Harrison Bldg., Philadelphia.

CARBON COUNTY.

Bowman, Maurice,	Bowmanstown.
Kurtz, J. M.,	139 East Second St., Berwick.
Reddington, M.,	White Haven.

CHESTER COUNTY.

Jones, William O.,	Ercildoun.
Jones, John E.,	Spring City.
McManus, P.,	224 N. 32d St., Philadelphia.

OPERATOR.	P. O. ADDRESS.
Miller, Alex.,	Barker.
Sharples, H. H.,	West Chester.
Silica Stone Works,	Planebrook.
Silican Products Co.,	Queen St., Lancaster.
Whiteland Silica Co.,	Exton.

CLEARFIELD COUNTY.

Clearfield Quarry Co.,	543 Nichols St., Clearfield.
Cramer Quarry Co.,	DuBois.
Gocella Stone Land Co.,	DuBois.
Harbison Walker Refractories Co.,	Pittsburg.
Jefferson & Clearfield Stone & Sand Co.,	DuBois.
Johnson Bros.,	DuBois.
Martoi, J.,	Altoona.
McManus, P.,	Philadelphia.
Reed & Patton,	Curwensville.
Roaring Run Stone Co.,	Curwensville.
Sims, Chas. & Co.,	714 Harrison Bldg., Philadelphia.
Fate, A.,	543 Nichols St., Clearfield.

CLINTON COUNTY.

Clinton Grain Co.,	Mill Hall, 41 Park Row, New York, N. Y.
Susquehanna Stone Co.,	Williamsport.

COLUMBIA COUNTY.

Hutton, William,	Bloomsburg.
Quick, J. G.,	204 W. Main St., Bloomsburg.

CRAWFORD COUNTY.

Gocella Stone & Sand Co.,	DuBois.
Hocks, Frank, Sons,	Media R. F. D. 3.
Miller, Hiram,	Conneaut Lake.

DELAWARE COUNTY.

Fraser, H. A. and D. M.,	Ardmore.
Hibberd, Jacob,	R. D. 3, Box 1, Media.

DAUPHIN COUNTY.

Ligan, Edward H.,	Hummelstown.
Lindsay Brown Stone Co.,	823 Humbolt St., Detroit, Mich.

ELK COUNTY.

Callahan & Brown,	Kersey.
Croyland Silica Sand Co.,	Ridgway.
Hogan, Daniel,	Instanter.

OPERATOR.	P. O. ADDRESS.
Fox Silica Sand & Stone Co.,	Ridgway.
Johnsonburg Stone Co.,	Johnsonburg.
Kittner Sandstone Quarry Co.,	Ridgway.
Perantoni, Ferdinand,	Johnsonburg
Ridgway, S. S. Co.,	Renova.

FAYETTE COUNTY.

Breakneck Sand & Stone Co.,	Box 707, Connellsville.
Champion Milling Co.,	Brownsville.
Conn, B. G.,	Point Marion.
Costa, Louis,	Perryopolis.
Darby Heirs,	Uniontown.
Ely, J. S. & Son,	Point Marion.
Gray, J. S. and Frank,	57 Connellsville St., Uniontown.
Hagans, Frank S.,	Uniontown.
Harbison, Walker Refactories Co.,	Pittsburg.
Hunt, T. H.,	Uniontown.
Morris, Rush M.,	Uniontown R. D. 4.
Orient Coke Co.,	Uniontown.
Patterson, W. W.,	Brownsfield.
Patterson, Mary E.,	Hopwood.
Springer, Frank,	54 Peter St., Uniontown.
Titus, M. Lee,	Point Marion.
United Fire Brick Co.,	1st National Bank Bldg., Uniontown.
Ulery, James and Inks,	Uniontown.
Hummelstown Brownstone Co.,	Waltonville.

GREENE COUNTY.

Blair, W. F. & Son,	Waynesburg.
Moninger & Miller,	Deer Lick.
Robinson & Frederick,	Meadville
Thomas, F. C.,	Waynesburg.
Waychoff, H. B.,	Greensboro R. D. 1.
Waynesburg Brick & Stone Co.,	Waynesburg

HUNTINGDON COUNTY.

Baldridge, E. R. & Co.,	Hollidaysburg
Federal Refractories Co.,	1209 Rockefeller Bldg., Cleveland, O.
Harbison Walker Refractories Co.,	Pittsburg.
Mt. Union Refractories Co.,	Mt. Union
Mt. Union Silica Brick Co.,	Mt. Union

INDIANA COUNTY.

Cramer Quarry Co.,	DuBois.
Indiana and Falls Creek Stone and Indiana Sand Co.,	Indiana

Ligonier Block Stone and Ballast Co., ... Ligonier.
McSpadden, J. C., ... 326 Fourth Ave., Pittsburgh.
Wehrle, R. W., ... Indiana.

JEFFERSON COUNTY.

Adams & Leasure, ... Box 396, Punxsutawney.
Caldwell, Pearl, ... Punxsutawney.
Gocella Stone & Sand Co., ... DuBois.
McGovern, P. E. & P. J., ... Punxsutawney.
Williams, C. C., ... Punxsutawney R. D. 2.

LACKAWANNA COUNTY.

Davis, William J., ... Scranton.
Leggitts Creek Quarry & Sand Co., ... Scranton.
Nay Aug Stone Co., ... 326 Coal Ex., Scranton.
Northern Boulevard Co., ...406 Linden St., Scranton.
Rock, M. J., ... 1402 W. Market St., Scranton.
Stipp, Peter, ... Scranton.
Hoffman, I. W., ... Elizabethtown.
Shaffer, Isaac B., ... Elizabethtown, R. D. 3.

LAWRENCE COUNTY.

Beaver Valley Sandstone Co., .. 601-606 L. S. & T. Bldg., New Castle.
Clydesdale Stone Co., ... 2356 Oliver Bldg., Pittsburg.
Consolidated Stone & Mining Co., 1401 Farmers Bank Bldg., Pittsburg.
Ellwood Stone Co., ... House Bldg., Pittsburg.
Gallagher, Neil, ... Hazeldell.
Kopple Stone Co., ... Wampum.
Pennsylvania Stone Co., ... New Castle.
The Quaker Falls Stone Co., 720 Dollards Bank Bldg., Youngstown, O.
Skillen Bros., ... Ellwood City.
Wright, William, ... Hazeldell.

LEBANON COUNTY.

Mt. Gretna Brown Stone Co., ... Lebanon.

LEHIGH COUNTY.

Bachman, M. H. & Co., ... Allentown, R. D. 4.
Schaagel, R., ... 539 New St., Allentown.

LUZERNE COUNTY.

General Crushed Stone Co., ... Easton.
Kehoe & Co., ... Hazleton.
Keystone Quarry Co., ... White Haven.

OPERATOR.	P. O. ADDRESS.
Kraeger, H. C.,	Shickshinny.
Stimer, Jos.,	253 Lehigh St., Wilkes-Barre.
White Haven Quarry Co.,	White Haven.
Uber Breckenridge Sand & Stone Co.,	New Castle.
Williams, W. S.,	60 Ocean St., Sharon.

LYCOMING COUNTY.

Gaus, M. & Co.,	Milton.
Menne, Jas. J.,	1019 Baldwin St., Williamsport.
Stoempfles, David & Sons,	332 Penn St., Williamsport.
West, Geo.,	Picture Rocks.

McKEAN COUNTY.

Frier, William,	Port Allegheny.
Higgins, John J.,	Waverly, N. Y.

MERCER COUNTY.

Amy & Co.,	Greenville.
Aubel, H. D.,	Greenville.
Blaney, W. E., Mrs.,	Sharpsville.
Foulk, John,	Greenville
Great Northern Sand & Stone Co.,	New Castle.
Greenville Sawed Stone Works,	Greenville.
Greenville Silica Sand & Quarry Co.,	Greenville.
Hill, John C.,	Pittsburg.
McKean, A. E. & Son,	Greenville R. D. 4.
National Stone Co.,	A. S. & T. Bldg., New Castle.

MONROE COUNTY.

D. L. & W. R. R. Co.,	26 Exchange St., New York, N. Y.

MONTGOMERY COUNTY.

Burl, William,	Ambler.
Fosbenner, J.,	Hatfield.
Mattison, Dr. Richard V.,	Ambler.
Metzgar, Ariel,	100 Buttonwood St., Norristown.
Progressive Realty Co.,	Sonderston.
Stretch, John,	Bryn Mawr.
Tyson, Jacob L.,	900 Jefferson St., Philadelphia.
Whitman, Baltis,	204 Cricket Ave., Ardmore.
Young, Wm. F.,	Hendricks.

NORTHUMBERLAND COUNTY.

Drumheiser, P. W.,	919 E. Sunbury St., Shamokin.

PHILADELPHIA COUNTY.

OPERATOR.	P. O. ADDRESS.
Silica Manufacturing Co.,	Ex. Bldg., Philadelphia.

POTTER COUNTY.

Stebbins, M. H.,	Wellsboro.

SCHUYLKILL COUNTY.

Althouse Stone Co.,	Shillington.

SOMERSET COUNTY.

Dwyer, J. W. & Son,	6036 Elliot Square, Buffalo, N. Y.
Gaus, M. & Co.,	Milford Station.
McSpadden, J. C.,	326 4th Ave., Pittsburg.
Rowena Stone & Sand Co.,	Wood & Nurdock St., Johnstown.
Somerset Stone Co.,	Somerset.

SUSQUEHANNA COUNTY.

Forest City Stone Co.,	316 Board of Trade Bldg., Scranton.

VENANGO COUNTY.

Amsler & Shaffer,	1221 Buffalo St., Franklin.
Burgard, John,	Pacific Ave., Franklin.
Dwyer, J. W. & Son,	636 Elliot Square, Buffalo, N. Y.
Lundager, Chas.,	507 Elk St., Franklin.
Pearson, Andrew,	111 E. Bissell Ave., Oil City.
Ready, David,	151 W. 3rd St., Oil City.
Stanton, L. W.,	Franklin.
Seaton, L. E.,	Elk St., Franklin.

WASHINGTON COUNTY.

Charleroi Paving & Construction Co.,	Charleroi
Davis, R. W.,	20 Donnan Ave., Washington.
Hallam Construction Co.,	27 East Bean St., Washington.
Lock Four Brick Co.,	Charleroi.
Potter, C.,	Lincoln Ave., Donora.
Rietsch Bros.,	810 E. Warden St., Washington.

WESTMORELAND COUNTY.

Albright, J. S.,	Welty.
Ankleman, G. W.,	Export.
Black, George,	Irwin R. D. 3.
Black, Jas.,	Irwin R. D. 3.
Brant, G. M.,	Ligonier.
Brindle, E. L.,	Latrobe.

OPERATOR.	P. O. ADDRESS.
Cline, G. B.,	Export, R. D. 2.
Cochrane, James,	Greensburg.
Da Farra, Joseph,	42 Jefferson St., S. Greensburg.
Eichar, Harry L.,	Greensburg R. D. 5.
Evan, Jones & Co.,	Pittsburg.
Feldner, I. F.,	Export.
Globe Sand and Stone Co.,	Greensburg.
Gongaware, Walter,	Irwin.
Greensburg Stone Co.,	539 West Pitts St., Greensburg.
Hays, Jesse,	Greensburg R. D. 7.
Hoffman, Lewis F.,	Irwin.
Hudgkin, J. W.,	Armbrust.
Immel, Geo. B.,	Latrobe R. D. 1.
Jeanette Brick & Stone Co.,	Jeanette.
Keystone Sand & Supply Works,	Greensburg.
Kemerer, D. S.,	Export R. D. 2.
Long Cyrus,	New Stanton.
McElwain A. C.,	Irwin R. D. 2.
Musick, L. M.,	Latrobe R. D. 1.
Myers, C. S.,	Irwin.
New Stanton Sand & Stone Co.,	Greensburg.
Ohr, Chas. A.,	Greensburg R. D. 3.
Operator, Cunningham Quarry,	Belle Vernon.
Reynolds, S. L.,	West Newton.
Robb, Andrew,	Latrobe R. D. 2, Box 171.
Shirey, D. C.,	Youngstown.
Shirey, J. O.,	Latrobe, R. D. 1.
Sims, Chas. & Co.,	714 Harrison Bldg., Philadelphia.
Stark Bluestone Co.,	Greensburg.
Thomas, I. J.,	Armbrust.
Todd, T. E.,	Belle Vernon.
Unity Sand & Stone Co.,	Greensburg.
Westmoreland Stone & Lime Co.,	316 4th Ave., Pittsburg.
White, A. M.,	Irwin.
Williams, Geo. W. and Son,	Latrobe.
Wineman, Jacob V.,	Youngwood.

BLUE STONE

BLUE STONE

The rock known as "blue stone" is a hard, fine grained, compact, dark blue gray, argillaceous sandstone, found in southern New York and northeastern Pennsylvania. It is included in the totals of the sandstone production, but, owing to its local importance, its value is given separately in the following table. It is probable some material reported as blue stone is not properly classified by the producers.

VALUE AND USES OF BLUE STONE PRODUCED IN PENNSYLVANIA, 1910 AND 1911.

Year.	Building Purposes.	Flagging.	Curbing.	Crushed Stone.	Other Purposes.	Total.
1910,	$138,207	$107,846	$98,558	$47,823	$7,558	$399,992
1911,	92,493	87,769	78,106	17,233	9,290	284,891

DIRECTORY OF BLUE STONE PRODUCERS.

BRADFORD COUNTY.

OPERATOR.	P. O. ADDRESS.
Baldwin, E. M.,	Towanda.
Capwell & Son, E. H.,	Sugar Run.
Comstock, Andrew,	Laceyville R. D. 37.
Grow, Mrs. Rhoda,	Sugar Run.
Hoffman, Jacob,	Wyalusing.
Moyer & Repsher,	Laceyville.
Neiley, J. B.,	Towanda R. D. 9.
Platt Bros.,	Canton.
Rosencrance, F.,	Laceyville R. D. 37.
Towanda Blue Stone Quarries,	Towanda.
Vanness, L. W.,	Laceyville.

BUCKS COUNTY.

Schwenk, C. F.,	Perkasie.

CLINTON COUNTY.

Crowley, D. P.	Lock Haven.

CRAWFORD COUNTY.

Miller, Hiram,	Conneaut Lake.

FAYETTE COUNTY.

Brown, A. C.,	Waltersburg.
Standard Lime & Stone Co.,	524 Equitable Bldg., Baltimore, Md.
Walters & Frasher,	Upper Middletown.

GREENE COUNTY.

OPERATOR.	P. O. ADDRESS.
Barnes, Thos. I.	Waynesburg.
Sayers, D. L.,	Waynesburg.

LACKAWANNA COUNTY.

Bird, R. A.,	Moscow.
Pratt, C.,	132 10th Ave., Scranton.

LUZERNE COUNTY.

Brown Quarries and Construction Co.,	Duryea.

LYCOMING COUNTY.

Bennett & Glover,	Waterville.
Benedict, H.,	Hoffman St., Williamsport.
Blockwell, Henry,	Trout Run.
Bonnell, A. J.,	Waterville.
Bryhoff, John,	Jersey Mills.
Callahan & Smith,	Jersey Mills.
Carson, S. M.,	Waterville.
Carson, J. H.,	Waterville.
Cassidy, P. F.,	Waterville.
Clinton, C. H.,	Jersey Mills.
Conner, J. H.,	Waterville.
Follmer, Wm. Mrs.,	Trout Run.
Fuller, Ferris,	Cammal.
Hines, James M.,	Jersey Shore.
Holt, G. W.,	Jersey Mills.
Holt & Snyder,	Trout Run.
Horn, E.,	Jersey Mills.
Knoebel, H. A.,	99 Catawissa St., Sunbury.
Love, E. L.,	Waterville.
Mullen & Miller,	Jersey Mills.
Moore, Thos.,	Trout Run.
Platt & Cassidy,	Jersey Mills.
Schmidt, J. G.,	Cammal
Schmidt, Geo.,	Cammal.
Truman, I. L.,	Trout Run.
Wolf, W. W.,	Waterville.

McKEAN COUNTY.

Bellows, F. E.,	Port Allegheny.
Dudley, Enoch,	Port Allegheny.

PIKE COUNTY.

OPERATOR.	P. O. ADDRESS.
Action, Matt,	Glen Eyre.
Binkman & Stewart,	Inglehart.
Blume, J. & Wm.,	Shohola.
Boileau, Chas. J.,	Milford.
Bonesteel, Saml.,	Glen Eyre.
Bridge, Geo.,	Shohola.
Burkhart, Frank & Co.,	Kimble.
Case, V. W.,	Welcome Lake.
Case, Judson C.,	Welcome Lake.
Comford, John,	Kimble.
Decker, F. L.,	Kimble.
DeGroat, John,	Kimble.
Haas, John J.,	Shohola.
Harsh, Johanna,	Narberth.
Hoenwald, Ferdinand,	Lackawaxen.
Hood, J. V.,	Dengmans Ferry.
Johnson, Ed. N.,	Masthope.
Keller Bros.,	Shohola.
Keyzer, Albert,	Kimble.
Keyser, Broffit & Keyzer,	Kimble.
Leedecker, Chas.,	Shohola.
Logan, James,	Glen Eyre.
Pituse, Geo. P.,	Kimble.
Robinson, Geo.,	Masthope.
Rowland, A. G.,	Rowlands.
Sarton, Oliver,	Kimble.
Schock, Robert,	Shohola.
Shock, R. & Mailett R.,	Shohola.
Shoemaker, W. H.,	Shohola.
Smith Bros.,	Minnisink, N. J.
Standard Bluestone Co.,	Jersey City.
VonFranck, Henry,	Hawley.
Watson, Geo.,	Kimble.

POTTER COUNTY.

Cornwell, F. S.,	Burtville.
Fancher & Brizzee,	Oswayo.

SCHUYLKILL COUNTY.

Manny, James,	Skiners Eddy.
Phinny & Manning,	Laceyville.

SUSQUEHANNA COUNTY.

OPERATOR.	P. O. ADDRESS.
Baker, Geo. F.,	Hallstead.
Bailey Bros.,	Stevens Point.
Buckley Bros.,	Lanesboro.
Buckley Bros. & Chambers,	Lanesboro.
Chase, O. W.,	Dimock.
Cornwell & Craft,	Hallstead.
Day, Edward & Son,	Hallstead Box 86.
Degnan, Andrew & Son,	Meshoppen R. D. 1.
English, D. S.,	Corbettsville, N. Y.
Franklin Stone Co.,	Nicholson.
Gathany, E. P.,	Hallstead.
Glidden Bluestone Co.,	Susquehanna Bx. 676.
Grimm, C. E.,	Susquehanna R. D. 5.
Hallstead Bluestone Co.,	Hallstead.
Hartley, Silas P.,	Lenoxville.
Jayne, F. H.,	Nicholson R. D. 4.
Jennings, C. W.,	Lynn.
Lanesboro Bluestone Mills,	Lanesboro.
Lee, E. G.,	Montrose R. D. 3.
Lott, Bros.,	Springfield.
McCoy, C. E.,	Stevens Point.
Nelson, J. N.,	New Milford.
Newark Bluestone Co.,	120 Parson St., Newark, N. J.
Oakley, Jesse,	S. Montrose R. D. 1.
Rockwell, A. A.,	Stevens Point.
Rought, G. G.,	Nicholson.
Shields, Moses Stone Co.,	Nicholson.
Shortell & Loop,	Lanesboro.
Spears, A. G.,	Stevens Point.
Stevens, A. L.,	Springville.
Taylor, C. M.,	Lanesboro.
Teril & Petis,	Stevens Point.
Thornton, L. F.,	Dimock.
Travis & Kingsbury,	Hale Eddy, New York.
Winters, F. T.,	Lanesboro.

WAYNE COUNTY.

Beaham, P. & P.,	Hawley.
Bowen, J. H.,	Frampton.
Buchanan, W. H.,	R. D. 2, Box 37, Thompson.
Buck, Deville,	Starruca.
Burns, Charles,	Hawley.
Chapman & Woodrow,	Equinunk.

OPERATOR.	P. O. ADDRESS.
Chapman's Bluestone Quarry,	Sherman.
Corey, C. D.,	Starrucca.
Dicker, Ira S.,	99 Prospect St., Binghampton, N. Y.
Eberline, W. A.,	Winterdale.
Everline, Ecker E.,	Winterdale.
Finigan Bros.,	Equinunk.
Garlow, E. M.,	Sherman.
Geer, Horace,	Starlight.
Gouchenour, Clayton,	Hawley.
Hancock Crushed & Bldg. Stone Co.,	Hancock, N. Y.
Henny, Frank,	Hancock, N. Y.
Hinkley, Alex.,	Mt. Pleasant R. D. 1.
House, A. P.,	Hawley.
Kenney Bros.,	Long Eddy, N. Y.
Layman, Wesley,	Hale Eddy, N. Y.
Lora & Schenck,	Equinunk.
Lynch, D. & Co.,	Sherman.
Mayo, E. & Son,	Starlight.
Myer, V. A.,	Long Eddy, N. Y.
Meyers, B. A.,	Long Eddy, N. Y.
Miller, Chas.,	Inglehart.
Miller, P.,	Honesdale.
Minckler, Samuel,	Kellam.
Myers, Ed.,	Braman.
Ogilvie, J. R.,	Starlight.
O'Rourk, M. P.,	Whites Mills.
Roloson, Alva,	Equinunk.
Schmitz, Casper,	Winterdale
Sheets, N. S.,	Starrucca
Shutts, W. F.,	Starrucca
Smith, Decatur M.,	Scott Corners
Snyder, Wm.,	Equinunk
Soden, James,	Starrucca
Spring, Jos. K.,	Hawley
Sullivan, P.,	Hawley
Tarbox, G. C.,	Winterdale
Travis & Soden,	Starrucca
Vandermask, R. R.,	Equinunk
Whispel, A. J.,	Braman
Young, B. F.,	Equinunk

WESTMORELAND COUNTY.

Benson, J. P.,	Hillside.
Laurel Hill Bluestone Co.,	Ligonier Bx. 288.
McMurry, John,	Harrison City.
Myers, J. E.,	Penn Station.

WYOMING COUNTY.

OPERATOR.	P. O. ADDRESS.
Arthur, J. W.,	Laceyville.
Dayton, Samuel H.,	Tunkhannock R. D. 3.
Frazer, G. E.,	Laceyville.
Harris, A. H.,	Laceyville.
Harris, Nelson,	Tunkhannock.
Harris, A. H. Stone Co.,	Laceyville.
Harvey, Tracey,	Tunkhannock R. D. 2.
Hawk, Geo.,	Tunkhannock, R. D. 1.
Mowrey, A. E.,	Meshoppen.
Nicholson Stone Co.,	Nicholson.
Phiny & Manning,	Laceyville.
Ridgway, B. & Son,	Skinners Eddy.
Rosencrance, J. L. & Penworth, Fred,	Laceyville, R. D. 37
Rosencrance & Rogers,	Laceyville.
Ruger, Horace,	Laceyville.
Ruger, Willard,	Laceyville.
Sampson, Samuel D.	Laceyville.
Shaw, Herbert G.,	Walton, N. Y.
Moses Shields Stone Co.,	Nicholson.
Smith, L. W.,	Laceyville.
Springer, James,	Factoryville R. D.
Vesburg Bluestone Co.,	Mill City.
Winans, Elmar,	Meshoppen.
Winans, Nip,	Meshoppen.
Winans & Dougherty,	Meshoppen.
Winans & Hunt,	Mill City.
Wyoming Valley Stone Co.,	Tunkhannock.

YORK COUNTY.

Hanover & Littlestown Turnpike Co.,	Hanover.

MARBLE

MARBLE

Pennsylvania produces but little marble. In the following table the output of serpentine is included with marble.

Value of marble produced in Pennsylvania, 1907-1911.

1907,	$118,539
1908,	102,747
1909,	186,037
1910,	182,514*a*
1911,	214,913

a Includes Maryland in 1910.

DIRECTORY OF MARBLE PRODUCERS.

CHESTER COUNTY.

OPERATOR.	P. O. ADDRESS.
Penna. Marble & Granite Co.,	West Grove.

MONTGOMERY COUNTY.

Schweyer, Millard C., ... King of Prussia.

NORTHAMPTON COUNTY.

Schweyer, Henry A. Co., ... King of Prussia ..... Easton.
Pennsylvania Green Marble Co., ... 14 S. 3rd St., Easton.

LUZERNE COUNTY.

Kurtz, J. V., ... 139 E. 2nd St., Berwick.

YORK COUNTY.

Christy, Henry & Co., ... 304 Race St., Philadelphia.

LIMESTONE

LIMESTONE

The production of limestone in Pennsylvania for the years, 1907-1911 is shown by the following table.

Value of limestone production in Pennsylvania, 1907-1911.

1907, ...	$5,821,275
1908, ...	4,057,471
1909, ...	5,073,825
1910, ...	5,394,611
1911, ...	5,242,795

The following table gives the value of the stone used for various purposes in 1910 and 1911.

VALUE OF LIMESTONE PRODUCED IN PENNSYLVANIA IN 1910 AND 1911, AND USES.

Year.	Rough Building.	Dressed Building.	Paving.	Curbing.	Flagging.	Rubble.	Riprap.
1910,	$103,295	$118	$67,069	$1,850	$1,108	$3,314	$1,714
1911,	88,798	4,545	120,835	5,960	1,200	6,595	4,201

	Crushed Stone.					
	Road Making.	Railroad Ballast.	Concrete.	Flux.	Other.	Total.
1910, ----------	$409,643	$495,002	$455 301	$3,735,060	$121 137	$5,394,611
1911, ----------	560,212	390,948	510,297	3,396,304	152,100	5,243,045

LIME

LIME

The following table shows the quantity and value of lime burnt in the United States, and in Pennsylvania for the years, 1904 to 1911.

QUANTITY AND VALUE OF LIME BURNED IN PENNSYLVANIA AND THE UNITED STATES 1904—1911 IN SHORT TONS.

	Quantity.	Value.	Average price per ton.	Number of Operators.
	—1904—			
Pennsylvania,	567,300	$1,537,673	2.71	
United States,	2,697,120	9,817,451	3.68	
	—1905—			
Pennsylvania	620,018	1,672,267	2.70	
United States,	2,984,190	10,941,680	3.67	
	—1906—			
Pennsylvania,	624,060	1,857,754	2.98	425
United States,	3,198,087	12,480,653	3.90	979
	—1907—			
Pennsylvania,	655,166	2,075,842	3.17	366
United States,	3,084,799	12,640,512	4.10	899
	—1908—			
Pennsylvania,	582,352	1,883,496	3.23	443
United States,	2,766,873	11,091,186	4.01	949
	—1909—			
Pennsylvania,	881,439	2,532,454	2.87	635
United States,	3,484,974	13,846,072	3.97	1,234
	—1910—			
Pennsylvania,	877,714	2,440,350	2.78	572
United States,	3,505,954	14,088,039	4.02	1,126
	—1911—			
Pennsylvania,	841,723	2,688,374	3.19	
United States,	3,392,915	13,689,054	4.03	1,089

There is a difference in the fuel used for burning lime, depending somewhat upon the availability of the different fuels, and the character of the product desired. The following table shows the kind of fuel used both in the United States and in Pennsylvania.

KIND OF FUEL USED IN BURNING LIME.

	Kinds of Fuel and Number of Plants.						Mixed and Miscellaneous Fuels.		Total number of plants reporting.
	Coal.	Wood.	Oil.	Natural Gas.	Producer Gas.	Coke.	Coal with coke, oil or natural and producer gas.	Wood with coal, coke oil, gas or shavings, etc.	
Pennsylvania	396	10	1	2	----------	5	17	69	500
United States	543	224	8	8	11	19	31	161	1,005

Pennsylvania far exceeds any other State in the value of lime produced, and the following table gives the value of the total production of the United States, and that of Pennsylvania, for the years 1896 to 1911.

VALUE OF LIME PRODUCED IN PENNSYLVANIA COMPARED WITH UNITED STATES, 1896-1911.

Year	Pennsylvania Value	United States. Value
1896, ...	$1,082,682	$6,327,900
1897, ...	1,038,723	6,390,487
1898, ...	1,201,352	6,886,549
1899, ...	1,132,760	6,983,067
1900, ...	910,903	6,797,496
1901, ...	1,249,996	8,204,054
1902, ...	1,429,643	9,335,618
1903, ...	1,431,863	9,255,882
1904, ...	1,537,673	9,951,456
1905, ...	1,672,267	10,941,680
1906, ...	1,857,754	12,480,653
1907, ...	2,075,842	12,640,512
1908, ...	1,883,496	11,091,186
1909, ...	2,542,954	13,805,405
1910, ...	2,440,350	14,088,039
1911, ...	2,688,374	13,689,054

When Quicklime is hydrated whether done by slaking in the mortar box, or other irregular manner, or by applying a definite proportion of water and stirring the mass by machinery, the chemical principle

utilized is the same. Commonly the term "Hydrated Lime" is confined to the dry powder which results when just sufficient water is added to combine with the calcium oxide present. The production of "Hydrated Lime" is steadily increasing. In Pennsylvania there are 8 plants engaged in the business. The following table gives in general form, the details of production in the United States, for the years 1906 to 1911

PRODUCTION OF HYDRATED LIME IN THE U. S. 1906 to 1911.

	Quantity	Value	Average price per ton	Number of Plants
1906, ...	120,357	$479,079	$3.98	30
1907, ...	140,135	657,636	4.69	33
1908, ...	136,441	548,262	4.02	46
1909, ...	204,611	904,900	4.43	50
1910, ...	320,819	1,288,789	4.02	52
1911, ...	304,593	1,372,057	4.50	61

Directory of Limestone and Lime Producers.

ADAMS COUNTY.

OPERATOR.	P. O. ADDRESS.
Blair, Albert J.,	Littlestown.
Bittinger, John R.,	Hanover R. D. 6.
Bittenger & Rohrbaugh,	Hanover R. F. D. 6.
Frock, J. J.,	Hanover.
Leer, Peter,	York Springs.
Martz, Geo. K.,	Littlestown R. F. D. 3.
McCleaf, S. S.,	Fairfield.
McGloughlin, C. W. Sons,	
Bittinger, John,	Fairfield.
Neely, J. W. & Son,	Fairfield.
Oyler, Wm. & Bro.,	106 N. Stratton St., Gettysburg.
Parr, A. H.,	Littlestown.
Schriver, Jacob C.,	Hanover.
Schroder, W. S.,	Gettysburg.
Shulley, D. C.,	Fairfield.
Smith, H. F.,	133 W. Market St., York.
Steacy & Wilton,	Wrightsville.
Strine, Henry M.,	Littlestown R. F. D. 3.
Trostle, Geo. H.,	York Springs.

ALLEGHENY COUNTY.

Barrett, Thomas,	616 George St., Wilmerding.
Curry, R. M.,	Rodfield.

OPERATOR.	P. O. ADDRESS.
Lambert, R. R. & Co.,	Taggart St., Pittsburg.
Peterman, John H.,	Wilkinsburg R. F. D. 1.
Phillips & George,	Taggart St., Pittsburg.
Trax, E. C.,	Library.
Wynn & Star,	32 St., Pittsburg.

ARMSTRONG COUNTY.

Altman, G. F.,	Shelocta Box 45, R. F. D. 2.
Anderson, H. M.,	Bethlehem.
Apolo Lime & Ballast Co.,	Apollo.
Baum, Jacob W.,	Mosgrove.
Baum, L. G.,	Mosgrove.
Best, J. W.,	New Bethlehem R. F. D. 4.
Bowers, H. M.,	Dayton.
Bracken, T. M.,	Ford City R. F. D. 1.
Brown, Wm. J.,	Sherrett.
Butler, John J.,	Dayton.
Campbell, Wm. Jr.,	Ford City R. F. D. 1.
Daugherty Bros.,	Kittanning.
Duncan, H. F.,	Rimer R. F. D. 1.
Dinger, E. F.,	New Mayville R. F. D. 2.
Doverspike, J. M.,	New Bethlehem R. D. 6.
Fetter, Wm.,	New Mayville R. F. D. 4.
Flick, J. A.,	Worthington R. F. D. 1.
Foster, Charles,	Sherrett.
Foster, Mrs. Eliza,	New Bethlehem R. F. D. 6.
Foster, John Heirs,	New Bethlehem.
Gauster, Frank,	Kittanning.
George, U. S.,	Girty.
Gould, Grier C.,	New Bethlehem R. F. D. 6.
Hawk, Jas.,	Rimer R. F. D. 1.
Hankey, Geo. W.	New Bethlehem R. D. 4.
Haupt, W. T.,	New Mayville R. D. 2.
Heffelfinger, H. R.,	Mosgrove R. F. D. 1.
Henry, E. C.,	Dayton.
Hetrick, David A.,	Deanville.
Hiteman, Wm.,	Ford City.
Hoffman, H. J.,	New Mayville R. F. D.
Hoffman, R. Dal,	New Bethlehem R. D. 6.
Hoffman, J. J.,	New Bethlehem R. F. D. 4, Box 22.
Holbon, John L.,	Chicora R. F. D. 79.
Iseman, John,	Ford City.
Kammerdeener, Peter,	Echo R. D. 1.
Kammerdiener, Jacob P.,	Mosgrove R. F. D. 2.

OPERATOR.	P. O. ADDRESS.
Keeler, E. E.,	Ford City.
Keenselman, E. A.,	Pierce.
Kimmel, C. B.,	Elderton.
King, D. H.,	Mahoning R. D. 1.
Kittanning Clay Manufacturing Co.,	Kittanning.
Kuhns, Wm.,	New Bethlehem R. F. D. 5.
Lanster Frank,	Kittanning R. F. D. 7.
Long, Jacob,	Dayton R. D. 1.
Marshall, B. P.,	Dayton.
Marshall, S. W.,	Dayton.
McGregor, W. S.,	Dayton.
McNutt, James,	Sherrett.
Miller, J. B.,	New Mayville R. F. D. 2.
Minninch, James M.,,	New Mayville R. F. D. 4.
Mobley, J. S.,	Kellersburg.
Mowrey, Wm. P.,	New Mayville.
Neese, Silas,	New Bethlehem R. D. 4.
Nichola Lime & Fire Clay Co.,	Punxsutawney.
Orton Oil Co.,	Franklin.
Pearl, Curtis,	Deanville.
Pittsburg Limestone Co.,	New Castle.
Reedy, Geo. H.,	New Bethlehem R. F. D.
Reesman, G. W.,	New Bethlehem.
Renard, Jesse,	New Mayville R. D. 2.
Rhodes, J. C.,	Mahoning R. F. D.
Rugh, J. H.,	New Bethlehem.
Rickel, John W.,	Sherrett.
Rupp, W. W.,	Echo R. D. 1.
Saxman, John A.,	Dayton.
Shirey, Miles,	New Mayville.
Shoemaker, P. W.,	New Bethlehem R. D. 5.
Schrecengost, W. D.,	New Bethlehem R. D. 6.
Shumaker, I. E.,	New Bethlehem R. D. 5.
Smith, Samuel,	New Bethlehem R. D. 4, Box 24.
Smith, Daniel,	New Bethlehem R. D. 4.
Templeton Limestone Co.,	Templeton.
Truitt, W. M.,	Mahoning R. D. 1.
Turner, S. A.,	Tidal.
Wheatcroft, C. W.,	Dayton R. D. 1.

BEAVER COUNTY.

Clydesdale Stone Co.,	2326 Oliver Bldg., Pittsburg.

BEDFORD COUNTY.

Adams, Mrs. Ellen,	Chaneysville.

OPERATOR.	P. O. ADDRESS.
Baker, J. W.,	Waterside.
Barndollar, Jacob Estate,	Everett.
Bayer, D. M.,	Loysburg.
Bayer, J. S.,	Loysburg,
Beck, Wm. & Bartholmew, M.,	Chaneyville.
Bedford Lime & Ballast Co.,	Hyndman.
Bedford Spring Co.,	Bedford.
Beegle, Adam,	Everett R. D. 1.
Beegle, Morton,	Everett R. D. 1.
Bittinger, David F.,	Imler.
Blackburn, Dewalt,	New Paris.
Blough, C. K.,	New Enterprise R. F. D. 7.
Bowser, Jacob C.,	Wolfsburg R. F. D. 1.
Burket, John T.,	Hyndman.
Burket, N. S.,	Hyndman.
Bussard, John,	Everett.
Carpenter, G. B.,	Buffalo Mills R. D. 1.
Cessna, Duncan,	Cumberland Valley.
Clark, Jacob,	Manns Choice.
Clark, Wm.,	Manns Choice.
Cook, John H.,	Hyndman.
Coughenour, D. A. & Geo.,	Fossilville.
Crilly, J. A.,	Imler.
Defenbaugh, Calvin,	Osterburg.
DeVore, Wm.,	Hyndman R. D. 1.
Diehl, Amos M.,	Wolfsburg.
Diehl, Watson,	Manns Choice.
Egolf, Benjamin,	Shellsburg.
Elder, W. P. & F. B.,	Buffalo Mills.
Enterprise Lime & Ballast Co.,	Hyndman.
Evans, D. S.,	203 Humbert St., Cumberland, Md.
Fanbel, Geo.,	Manns Choice.
Fanfel, John P.,	Manns Choice.
Fisher, J. L.,	New Enterprise R. F. D.
Furry, Chas. F.,	New Enterprise.
Gaerlinger, John E.,	Schellburg.
Gass, Wm. D.,	West Leesport.
Geisler, Mrs. Samuel,	St. Clairsville.
Grines, Sherman,	Everett.
Hillegas, H. J.,	Point.
Hiner, J. S.,	Buffalo Mills.
Hoogland, Geo. A.,	Bedford R. D. 2.
Horn, J. M.,	Cessna R. D. 1.
Hull, Geo. G.,	Osterburg.

OPERATOR.	P. O. ADDRESS.
Hyde, H. H. & Jonathan,	Manns Choice R. F. D. 1.
Kagarise, W. R.,	Salemville.
Kalbach, Chas. P.,	Bernville R. F. D.
Kaufman, David,	Osterburg.
Kennedy, Chas.,	New Paris.
King, C. L.,	New Enterprise R. F. D. 1.
King, W. A.,	Salemville.
Kinton, Howard,	Manns Choice.
Koontz, Geo. W.,	Bedford R. D. 2.
Koontz, John G.,	New Enterprise R. D. 1.
Leppert, Valentine,	Springhope.
Levan, J. Edwin,	Esterly.
Lint, J. W.,	Johnston.
Long, D. P.,	Bakers Summit.
McClure, A. M.,	Everett R. D. 4.
Miller, Frank H.,	Everett R. D. 1.
Miller, Samuel F.,	Manns Choice.
Miller, Chas.,	Maria.
Mitchell, Henry,	New Paris.
Martimore, Ross.,	Manns Choice.
Moss, J. H.,	Osterburg.
Naugle, W. S.,	Everett R. D. 3.
Nicodemus, Frank,	Bedford R. F. D. 1.
Nunamaker, Eli,,	New Paris.
Oster, Daniel M.,	Osterburg.
Ott, Philip G.,	Everett R. D. 2.
Pencil, D. B.,	Cessna.
Price, Thomas,	Bedford.
Riddle, C. W.,	Osterburg.
Reifsnyder, Samuel,	Bernville R. D. 2.
Rouzer, Joseph,	New Paris.
Russell, James P.,	Saxton.
Sell, Jos.,	Maria.
Shafer, John H.,	Wolfsburg R. D. 1.
Shaffer, S. L.,	Bedford.
Smith, Anthony,	Everett R. D. 3.
Snyder, Adam L.,	Everett R. D. 1.
Stayer, Aaron D.	Everett.
Stayer, J. R.,	Woodbury.
Stuckey, Samuel S.,	Wolfsburg.
Taylor, W. V.,	Shellsburg.
Taylor, H. Irwin,	Box 90 New Paris.
Tewell, A. L.,	Chaneysville.
Thropp, Joseph E.,	Everett.

OPERATOR.	P. O. ADDRESS.
Trusheim, John,	Buffalo Mills.
Wolford, Levi,	Buffalo Mills.
Walker, Edwin F.,	Cessna.
Walter, Jonas,	Queen.
Wareham, Abram,	Everett.
Warlick, C. W.,	Manns Choice.
Whetstone, Jno. S.,	Everett R. D. 2.
Worthing, John,	Saxton.

BERKS COUNTY.

Althouse Stone Co.,	Shillington.
Augstadt, R. H.,	Dryville.
Augstadt, Levi W.,	Olney R. D. 3.
Bachman, Clarence S.,	Oakbrook.
Bender, W. M.,	Sinking Spring.
Bickel, Moses A.,	West Leesport R. D. 1.
Bieber, W. G.,	Kutztown.
Bitner, James,	Reading R. D. 2.
Blatt, Nathaniel,	Robesonia R. D. 1.
Brossman, Nelson,	Robesonia.
Clouser, Aaron L.,	Oley R. D. 3.
Cumru Twp. Supervisors,	Reading
Davidheiser, Wm.,	Pottstown.
Dunkleberger, Jacob E.,	West Leesport.
Delong, David,	Shamrock.
Delong, Winfield,	Bowers.
DeTurek, Abraham K.,	Oley,
Drumheller, A. B. & Bros.,	Earlville.
Dunkel Bros.,	Maiden Creek.
Fahrenbach, Geo. D.,	Bernville R. D. 2.
Faust, Thos. S.,	Bernville 2.
Freeman, James L.,	Sinking Springs.
Fidler, James,	Robesonia.
Fisher, Jacob,	Bernville.
Foreman, Abram,	Morgantown.
Fritz, Wells E.,	Sinking Spring.
Fox, Chas.,	Host.
Gaul, Cyrus W.,	Wernersville.
Gaul, Jas. M.,	Wernersville.
Gernert, Wm. M.,	Box 75 R. D. 2, Reading.
Graeff, Samuel B.,	Newmanstown.
Grant, Mrs. Chas. S.,	Esterly.
Gruber, Geo.,	Robesonia.
Hain, Lewis J.,	Wernersville.

OPERATOR.	P. O. ADDRESS.
Hain, Benj. R.,	Wernersville.
Hartman, Levi,	Griesermersville.
Hanes, Edward,	Robesonia.
Hartman, Fred. S.,	Reading R. D. 2.
Hartman, D. C.,	Spangsville.
Heffley, James,	Calcium.
Heins, H. D.,	Bechtelsville.
Herbein, A. M.,	Fleetwood.
Hertzog, A. D.,	Bechtelsville.
High, Irwin H.,	Oley.
Hill, John,	Womelsdorf.
Himmelberger,	Stouchsburg.
Hollenstein, Edward,	Kutztown.
Kalbach, Isaac B.,	205 Oley St., Reading.
Kirschaum, E. C.,	216 W. Oley St., Reading.
Kohler, G. J. S.,	909 Hamilton St., Allentown.
Kutz, Sell D.,	Kutztown.
Lamm, Chas. F.,	Sinking Springs.
Lance, John P. Mrs.,	122 North 4th St., Reading.
Leesport Lime Co.,	Leesport.
Leinbach, Peter M.,	Reading R. D. 2.
Lengle, M. D.,	Robesonia.
Levingood, H. E.,	Womelsdorf.
Levan, J. R.,	Esterly.
Ludwig, John R.,	Montello.
Metzgar, John H.,	Maxatawney.
McQuade Bros.,	Reading.
Miller, Daniel & Son,	Washington & Pear St., Reading.
Miller, Reily F.,	Robesonia.
Moyer, Chas. D.,	Olney R. D. 3.
Pearson, J. S. & Co.,	Calcium.
Penn Limestone Co.,	536 N. 9th St., Reading.
Reading Quarry Co.,	Temple.
Reading Lime Co.,	Reading.
Reinhart, Wm.,	Moselem.
Reeser, John,	Box 88 R. D. 1, Reading.
Rehr, Frank S.,	Bernville.
Reich, John L.,	Robesonia.
Reppert, C. W.,	Calcium.
Rhine, Harry,	Host.
Rhoads, L. E. K.,	Limekiln.
Robinson, W. G.,	212 Jefferson St., Reading.
Rothenberger, D. N.,	140 N. Queen St., Lancaster.
Rothermel, Amos.	Fleetwood.

OPERATOR.	P. O. ADDRESS.
Ruppert, Albert D.,	Lorane.
Ruth, Jacob L.,	Stouchsburg R. D. 1.
Ruth, J. A.,	Wernersville.
Ruth, Peter O.,	Bernville R. D. 2.
Ruth, Jacob,	Wyomissing.
Schell, Clyde A.,	Robesonia.
Schell, Frank,	Robesonia.
Schaeffer, Harry S.,	Greshville.
Schlegel, Orlando,	Fleetwood.
Seidel, Frank J.,	Robesonia.
Smaltz, John,	Stouchsburg.
Smith, A. G.,	Maxatawney.
Snyder, Adam H.,	Limekiln.
Snyder, P. H.,	Mt. Penn.
Spotts, Levi,	West Leesport R. D. 1.
State Asylum For Chronic Insane,	Wernersville.
Stoudt, Aaron L.,	Wernersville.
Stoltzfuss, Mast,	Morgantown.
Strunk, Samuel,	Limekiln.
Stump, Adam D.,	Bernville.
Stump, Jonathan E.,	Robesonia R. D. 1.
Strunk & Hartman,	Limekiln.
Swelitzer, E. E.,	Temple.
Trexler, John L.,	Mertztown.
Trout, James R.,	Shillington.
Warmkessel, Mrs. Mary,	Maxatawney.
Weidman, Sol. B.,	Sinking Spring.
Wenrich, Albert D.,	Robesonia.
Wesner, Edwin C.,	Shoemakerville.
Witman, D. H.,	Birdsboro.
Witman & Rauenzahn,	Calcium.
Zerby, Wm.,	Bernville R. D. 1.

BLAIR COUNTY.

American Lime & Stone Co.,	Tyrone.
Bell Bockel Stone Co.,	Altoona.
Blair Limestone Co.,	Canoe Creek.
Burket, Abram,	Claysburg.
Eldorado Concrete Co.,	Altoona R. D.
Hagey, J. E.,	Henrietta.
Herr, W. H. Estate,	1500 6th Ave. Altoona.
Hertzler, D. M.,	Elverson.
Hinkle, Henry S., Inc.,	61 Central Trust Bldg., Altoona.
Isabella Limestone Co.,	New Castle.
Josephine Furnace & Coke Co.,	Josephine.

OPERATOR.	P. O. ADDRESS.
Juniata Limestone Co.,	Johnstown.
Knisely Bros.,	Claysburg.
Knott, Levi,	1518 13th Ave., Altoona.
Law, John H.,	Hollidaysburg.
Lingenfelter, W. W.,	Claysburg.
Logan Crushed Stone Co.,	Altoona.
Manning, John,	818 Church St., Hollidaysburg.
Will Norman,	Duncansville.
Pennock, W. L.,	Altoona.
The Piney Creek White Lime & Building Stone Quarry Co.,	Martinsburg.
Pittsburg Limestone Co.,	New Castle.
Reighard, D. P.,	235 5th Ave., Pittsburg.
St. Clair Limestone Co.,	Carnegie Bldg., Pittsburg.
Tyrone Lime Co.,	Tyrone.
Wineland, Wm. L.,	Martinsburg.

BRADFORD COUNTY.

Gould & Halstead,	Wyalusing.
Halstead Gould & Butts,	Wyalusing.
Terry, B. R.,	Wyalusing R. D. 40.
Johnston, Fred,	Homets.
Johnson & God,	Wyalusing R. D.
Stevens, O. W. & Son,	Camptown R. D. 34.
Singer, M. L.,	Wyalusing.
Stone, Eugene E.,	Wyalusing R. D. 38.

BUCKS COUNTY.

Durham Iron Co.,	Riegelsville.
Heang, N. L.,	Point Pleasant.
Martin, T. W.,	Holland.
Mohr, Chas. F.,	Riegelsville R. D. 1.
Morris, A. G. & Son,	611 Empire Road, Pittsburg.
Peters, Isaiah,	Holicong.
Rampf, Wm.,	Eden.

BUTLER COUNTY.

Branchton, L. S. Co.,	Mercer.
Climax Lime & Stone Co.,	Wick.
Cooper, O. N.,	Slippery Rock R. D.
Hogue, S. L.,	Slippery Rock.
King & Graham,	Grove City.
Locks, David,	Slippery Rock.
Long. R. A.,	Buffalo Mills.

OPERATOR.	P. O. ADDRESS.
Murrin, Neal,	Murrinville.
New Castle Portland Cement Co.,	New Castle.
Osborn, J. W.,	Wick.
Osborne Limestone Co.,	Wick.
Pittsburg Limestone Co.,	New Castle.
Sharon Coal & Limestone Co.,	Mercer.

CENTER COUNTY.

Alexander Mills,	Julian.
American Lime & Stone Co.,	Tyrone.
Chemical Lime Co.,	Bellefonte.
Centre County Lime Co.,	Bellefonte.
Empire Lime Kilns,	Bellefonte.
Ghaner, W. H.,	Benore.
Reed, G. C.,	State College.
White Rock Quarries,	Bellefonte.

CHESTER COUNTY.

Dougherty M. Estate,	Malvern.
Dyer, John T. Quarry Co.,	Norristown.
Emery, J. W.,	Phoenixville R. D. 4.
Ericson Ore & Stone Co.,	Coatesville.
Groff, H. E.,	Downingtown.
Knickerbocker Lime Co.,	366 N. 24th St., Philadelphia.
Pollock, W. J., Jr.,	Downingtown.
Tayler, J. Walter,	Kenneth Sq., Philadelphia.
Warner, Chas. Co.,	Wilmington, Del.
Williamson, Frank,	2315 Walnut St., Philadelphia.

CLARION COUNTY.

Brown, R. L.,	Fairmount City R. D. 1.
Brinker, A. A.,	New Bethlehem.
Buffington, E. C.,	New Mayville.
Buzzard, John,	New Mayville R. D. 4.
Clarion Land & Imp. Co.,	New Bethlehem.
Crotsley, W. A.,	Colfax.
Doverspike, Ezra,	Bethlehem R. D.
Duncan, W. M.,	Lawsonham.
Fleming, C. N.,	Corsica R. D. 2.
Furlong, Frank,	New Bethlehem.
George, D. P.,	New Mayville R. D. 4.
George, Jacob,	New Mayville R. D. 4.
Hamler, M. A.,	New Mayville R. D. 1.

OPERATOR.	P. O. ADDRESS.
Hepler, Wm.,	New Bethlehem.
Hoffman, J. H.,	New Bethlehem R. D. 4.
Kells, Hugh,	New Bethlehem.
Lander, Wm. J.,	Lucinda.
Latshaw, Isaac,	Pollock R. D.
McCall, F. M.,	Bela.
McMahon, F. J.,	Limestone.
Neil, R. J.,	Clarion R. D. 1.
Miller, A. C.,	Ligonier.
Miller, Harry,	New Bethlehem R. D. 3.
Minich, R. M.,	Fairmount City.
Minich, J. V.,	New Mayville R. D. 4.
Minich, G. P.,	New Mayville R. D. 4.
Moore, J. J.,	Corsica.
Moore, J. W.,	Corsica.
Myers, D. A. & Son,	Sligo R. D. 3.
Orr, C. F.,	Limestone.
Polliard, E. E.,	Lawsonham R. D. 1.
Red Bank Improvement Co.,	New Bethlehem.
Reynolds, T. H.,	Clarion R. D. 1.
Riley, C. C.,	Clarion R. D. 1.
Riley, J. C.,	Clarion R. D. 1.
Sayers, H. C.,	New Mayville R. D. 1.
Schnader, S. J.,	Lucinda.
Sherry, J. B.,	New Bethlehem.
Sloan, N. P.,	Limestone.
Smith, Albert,	New Bethlehem.
Stewart, Robt. T. D.,	New Bethlehem R. D. 1.
Switzer, Irwin E.,	Fairmount City.
Taylor, Albert,	Hawthorn.
Weigand, W. H.,	New Bethlehem.
Weigand, Wm.,	New Bethlehem R. D. 6.
Wiggands, W.,	New Bethlehem.
Wise, Henry,	Clarion R. D. 1.
Yarger, Wm.,	New Bethlehem R. D. 4.

CLEARFIELD COUNTY.

DuBois Lime Co.,	DuBois.
Kramer Quarry Co.,	DuBois.

CLINTON COUNTY.

Bellefonte Lime Co.,	Bellefonte.
H. & K. Limestone Co.,	Lock Haven.
Walker Lime Co.,	Flemington.

OPERATOR.	P. O. ADDRESS.

COLUMBIA COUNTY.

African Ostrich Farm & Feather Co.,	Bloomsburg.
Cannady Jefferson,	Elliottston.
Low Bros. & Co.,	Lime Ridge.
Rosemont Cemetery Co.,	Bloomsburg.
Silver Spring Quarry Co.,	Almedia.
Walles, Mrs. D. J. Jr.,	Bloomsburg.
Williams, J. L.,	Berwick R. D. 3.
White, H. N.,	Almedia.

CRAWFORD COUNTY.

Reynolds, E. A.,	Meadville.

CUMBERLAND COUNTY.

Angle, S. A. J. Son.,	Shippensburg.
Armstrong, J. D.,	Bloomsburg.
Asper, Clark T.,	Shippensburg.
Beringer, George,	Bowmansdale.
Byers, Albert,	Newville.
Coy, N.,	Shippensburg.
Crowl, Lewis,	Bowmansdale.
Derick, A. L.,	Newville.
Eckert, John M.,	Hogestown.
Gibler, Jeremiah,	Greason.
Goodyear Bros.,	104 S. Hanover St., Carlisle.
Hall, Wm.,	Shippensburg.
Heller, D. H.,	Newville.
Hollar, Frank E.,	Shippensburg.
Hutchison,	Shippensburg.
Killinger, C. A.,	Shippensburg.
Kramer, Ira C.,	Newville R. D. 5.
Leach, Geo.,	Lemoyne.
Leach, S. B.,	Lemoyne.
Love, J. E.,	Shippensburg.
Martin, C. & Son,	Mechanicsburg.
Martin, W. L.,	West Fairview.
Miller, H. A.,	Mechanicsburg.
Miller, Jno C.,	Bowmansdale.
Minnick, David,	Carlisle.
Monntz, Aaron,	Carlisle R. D. 3.
Ott, D. & Son,	Camp Hill.
Owen, C. N.,	Mechanicsburg.

OPERATOR.	P. O. ADDRESS.
Reber, J. H.,	Waynesboro.
Shugart, D. A.,	N. Pitt St., Carlisle.
Spong, Lemuel R.,	Harrisburg.
Stone, Jacob,	Newburg R. D.
Walters, E. D.,	Shippensburg.
Walton Quarries,	Box 585, Harrisburg.
Yarnall, W. S.,	Carlisle.
Zeigler, W. S.,	Shippensburg R. D. 5.

DAUPHIN COUNTY.

Annville Stone Co.,	701 Bank Bldg., Easton.
Bradley, Walter T.,	9th St. & Girard Ave., Philadelphia.
Brehm, Chas. D.,	Hummelstown.
Cumbler, G. W., Estate,	Steelton.
Dietz, W. G.,	Palmyra.
Engle, Mrs. Emma F.,	Hummelstown.
Gibble, Jacob,	Palmyra R. D. 2.
Hetrick, John H.,	Palmyra R. D. 2.
Hoffer & Seibert,	Hummelstown.
Hoffman Bros. & Wilson,	1603½ Derry St., Harrisburg.
Metz, Daniel,	Harrisburg R. D. 1, Box 61.
Palmyra Lime & Stone Co.,	Palmyra.
Palmyra Quarry Co.,	Norristown.
Paxtang Quarry Co.,	Paxtang.
Renninger, Dr. A. R.,	1503 Locust St., Philadelphia.
Rutherford, Marshall,	1161 Derry St., Harrisburg.
Shenk, A. H.,	Derry Church.
Slesser, Daniel,	Palmyra.
Spring Creek Limestone Co.,	Lebanon.
Vulcanite Limestone Co.,	Land Title Bldg., Philadelphia.
Walters, Chas. P.,	449 State St., Harrisburg.
Zimmerman, Sol,	Highspire.

FAYETTE COUNTY.

Burgard, Henry G.,	Normalville.
Cornish, J. W.,	Uniontown R. D. 2.
Dassdorf, Reuben A.,	Jones Mills.
Dennis, A. J.,	Markleysburg.
Dennis, J. W.,	Tissue.
Fike, M. W.,	Markleysburg.
Fazenbaker, Walter,	Addison.
Gibson, Mrs. Jas.,	Mill Run.
Glover, Samuel,	Humbertson.
Gleson, Thos. J.,	Tissue.

OPERATOR.	P. O. ADDRESS.
Goodboy, Philip,	Gill Hall.
Humbertson, J. H.,	Humbertson.
Jackson, Geo.,	Chalkhill.
Joynes, Wm.,	McVeytown.
Lester, J. W. & Son,	Draketown.
Marker, C. B.,	Farmington.
Monongahela Stone Clay & Brick Co.,	Monongahela.
Mountain, Jasper,	Normalville.
Orient Coke Co.,	Uniontown.
Pope Stone & Brick Co.,	421 Wood St., Pittsburg.
Purnell, A. V.,	507 Jackson St., N. S. Pittsburg.
Reese, Wm. F.,	Fletcher.
Scarlett, W. E.,	Ohiopyle.
Sipe. A. W.,	Mill Run.
Standard Lime & Stone Co.,	Box 945 Baltimore, Md.
Thomas, F. J.,	Markleysburg.
Tissue. Lloyd W.,	Tissue.
Titlom & Seaton Est.,	Uniontown.
Van Sickle, John,	Markleysburg.
Younkin, W. D.,	Mill Run.

FRANKLIN COUNTY.

Bender, David O.,	Chambersburg R. D. 3.
Brandt, Martin C.,	Saint Thomas.
Byers, W. L.,	Mt. Pleasant.
Byers, Geo. M.,	St. Thomas.
Crider, Philip O.,	Chambersburg R. D. 6.
Crouse, D. F.,	Spring Run.
Decarbonated Lime & Stone Co.,	Waynesboro.
Duffield, C. W.,	Chambersburg R. D. 11.
Detrich Lime Co.,	Williamson.
Diehl, Ed. N.,	Shippensburg.
Diffenderfer, C. R.,	Edenville.
Dyer, J. W.,	Hancock, Md. R. D. 2.
East End Realty Co.,	Waynesboro.
Gelwicks, John F.,	Chambersburg R. D. 6.
Good, J. F. & Co.,	Midvale.
Hess, E. F.,	Greencastle.
Hafer & Osterman,	Chambersburg.
Houser, John H.,	Mt. Alto R. D. 1.
Hydraulic Stone Co.,	Waynesboro.
Immel, John W.,	Green Village.
Johns, W. F.,	Chambersburg R. D. 4.
Kegerreis, J. D.,	Willow Hill.

OPERATOR.	P. O. ADDRESS.
Lawrey, David R..	Chambersburg R. D. 1.
Manberg, G. C.,	Waynesboro.
Martin, Wm. E.,	Chambersburg R. D. 6.
Metcalf, J. T.,	Quincy.
Meredith, Nelson Co.,	Chambersburg.
Miller, Harry H.,	St. Thomas.
Murphy, W. H. & Son,	724 Broad St., Chambersburg.
Newcomer, J. M.,	Waynesboro.
Patterson, W. D.,	Chambersburg R. D. 5.
Pheil, A. H.,	Chambersburg.
Phillips, Wm.,	Millstone.
Renfrew, J. H. & Son,	Chambersburg R. D.
Richard, Chas. W.,	Waynesboro.
Rohrer, Jacob A.,	Chambersburg R. D. 3.
Schaller, U. G.,	Waynesboro.
Shatzer, L. L.,	Edenville.
Shatzer, D. M.,	Edenville.
Shurman, J. K.,	Edenville.
Smith, Landis J.,	Orrstown.
Smith, L. J.,	Orrstown.
Smetzer, John,	Mt. Alto R. D. 1.
Springer, L. L.,	Edenville.
Wagner, J. A.,	Chambersburg R. D. 12.
Wenger, Mrs. Barbara A.,	Edenville.
Werger, John W.,	Chambersburg R. D. 6.
Wingert, A. D.,	Chambersburg R. D. 2.
Wiles, Albert,	Chambersburg R. D. 11.
Wingert, Samuel D.,	Chambersburg R. D. 2.

FULTON COUNTY.

Losey, J. F.,	Millstone, Md.
Steven, James D.,	Fort Littleton.

GREENE COUNTY.

Hoge, W. H. R.,	Waynesburg.
Moore & Cooper,	Swart.
Ross, J. B.,	Waynesburg.

HUNTINGDON COUNTY.

Altoona Sand, Clay & Iron Ore Co.,	Altoona.
Appleby, T. B.,	Decorum.
American Lime & Stone Co.,	Tyrone.
Baker, Geo. W.,	Shy Beaver.

OPERATOR.	P. O. ADDRESS.
Beaver, John S.,	Entriken.
Bilger, J. W.,	McNeal.
Black D. A. & D. M.,	Waterfall.
Bratton, Robert C.,	Dublin Mills.
Carbaugh, John,	Shy Beaver.
Colonial Iron Co.,	Riddlesburg.
Cowan, H. A.,	Decorum.
Crum, C. B.,	Saltillo.
Donelson, Martin,	Entriken.
Drake, E. H.,	Saltillo.
Fraker, S. O.,	Orbisonia.
Garver, Rev. J. Arthur,	Mt. Union.
Garvey, Clyde F.,	Shirleysburg.
Gray, H. M.,	Tyrone.
Green, Geo. M.,	Cassville.
Hess, Roy,	Dublin Mills.
Huey, John S.,	Airydale.
Jeffries, Jno. M.,	Neelytown.
Kelly, John H.,	Decorum.
King Bros.,	West Dublin.
Long, C. W.,	McConnellstown.
Linn, John C.,	Maddensville.
Mausberger, Daniel,	Calvin.
McMillen, J. A.,	Shade Gap.
Metz, P. W.,	Airydale.
Mt. Union Lime Co.,	Mt. Union.
Nycum, W. H.,	Saltillo.
Pennsylvania Lime & Stone Co.,	324 Penn St., Huntingdon.
Pinkey & Co.,	Orbisonia.
Querry, Israel M.,	Mapleton Depot.
Querry, Miles,	R. D. 1, Bx. 63, Mapleton Depot.
Robinson, C. G.,	Neelyton.
Rohrer, Byron,	Three Springs.
Russell, Isaac,	Shy Beaver.
Rudy, John O.,	Mill Creek.
Shingler, Wm. R.,	Mill Creek.
Shope, Miss Amanda B.,	Saltillo.
Schnopp, Levi & Chester,	Mill Creek.
Smith, S. E.,	Millbank.
Starr, Frank,	Orbisonia.
Stitt, W. D.,	Neelyton.
Stitt, R. B.,	Nossville.
Warriors Lime & Stone Co.,	Huntingdon.
Weaver, L. W.,	Shy Beaver.

OPERATOR.	P. O. ADDRESS.
Wible, E. R.,	Selee.
Wible, Frank,	Three Springs.
Wiley, J. K.,	Neelyton.
Wilson, Ira W.,	Neelyton.
Yoder, Solomon S.,	Allensville.

INDIANA COUNTY.

Aul, J. M.,	Smicksburg.
Crawford, F. E.,	Smicksburg R. D. 2.
Edmunds, E. R.,	Smicksburg.
Edmunds, Albert,	Smicksburg.
Hoover, J. C.,	Loop.
Kelly, D. M.,	Three Springs.
Knauf, Henry W.,	Rochester Mills.
Lewis, John B.,	Smicksburg.
McClelland, C. H.,	North Point.
McKallip, H. L.,	North Point.
Neal, W. B.,	R. D. 1 Bx. 35, Dayton.
Putt, Harrison,	Clymer.
Shaffer, O. O.,	Covode.
Smyers, Wm. Henry H.,	Smicksburg R. D. 2.
Stear, Gilbert L.,	Smicksburg.
Stiteler, J. Webster,	Smicksburg.

JEFFERSON COUNTY.

Acherson, J. P.,	Penn Run.
Allhouse, C. R.,	Brookville R. D. 3.
Allhouse, Henry,	Brookville R. D. 3.
Anderson, F. M.,	Summerville.
Barrett, J. D.,	Loop.
Blose, Mrs. Ida E.,	Sprankle Mills.
Blose, Boaz D.,	Sprankle Mills.
Bovaird, A. A.,	Brockwayville R. D. 1.
Brosius, J. F. Frank,	Content.
Burns, Geo. W.,	Summerville.
Burns, J. T.,	Brookville R. D. 3.
Burns, Geo. M.,	Baxter R. D. 2.
Calhoon, Walter F.,	Brookwayville.
Calhoun, A. E. & Son,	Brockwayville R. D. 1.
Chamberlin, P. A.,	Munderf.
Crawford, W. J & Son,	Reynoldsville.
Crow, William,	Loop.
Davis, E. M.,	Munderf.
Davis, Ambrose,	Munderf.

OPERATOR.	P. O. ADDRESS.
Deemer, C. L.,	Summerville R. D. 1.
Denger, Jacob,	Ringgold.
Dixon, G. W. & Sons,	Munderf.
Drummond, F. K.,	Dayton R. D. 1.
Gahangan, L. C.,	Big Run.
Gahagun, C. D.,	North Point R. D. 1.
Geist, S. M.,	Worthville.
Geist, S. T.,	Summerville R. D. 1
Geist, Norman,	Pansy.
Goss, Jno.,	Chambersburg R. D. 6.
Gould, J. O.,	Pansy.
Huffman, J. W.,	Summerville R. D. 1.
Hutchinson Bros.,	Falls Creek.
Johns, John,	Baxter R. D. 2.
Keys, Wm.,	Brockwayville R. D. 1.
Lettie, Jacob,	Porter.
Lettie, G. H.,	Sprankle Mills.
Lewis, L. M.,	Punxsutawney R. D. 4.
Maurer, Daniel,	Worthville.
McClelland, H. M.,	Phoenix.
McClelland, C. S.,	Dayton.
Mendenhall, J. S.,	Brookville R. D. 4.
Morris, H. N. & M. G.,	Brockwayville R. D. 1.
Morrison, C. R.,	Brookville R. D. 4.
Nasker, John G.,	Pueblo.
Nolan, Dr. T. and Arnold A. J.,	Box 405, Reynoldsville.
Reymer, Lizzie,	Worthville.
Reed, Wm. H. & Co.,	Ringgold.
Richards, J. C.,	Worthville.
Shields, Daniel,	Summerville R. D. 1.
Shields, J. B. & Son,	Summerville R. D. 1.
Smith, John E.,	North Point.
Smith, W. S.,	Munderf.
Smith, I. S.,	Baxter R. D. 1.
Smith, Jos. & Long, D. D.,	Brockwayville.
Speaker, John B.,	Brookville.
Steele, J. M.,	Brockwayville R. D. 1.
Stewart, Charles Ringgold,	Ringgold.
Tobin, Roy,	Brockwayville.
Webster, Newton,	Munderf.
Wilson, A. M.,	Allens Mills.
Wonderling, Mrs. Chas.,	West Punxsutawney.
Yeager, John G.,	Sprankle Mills.

OPERATOR.	P. O. ADDRESS.

JUNIATA COUNTY.

Diven, Jos.,	East Waterford.
Fry, John S.,	Mifflintown R. D. 2.
Carsman, E. A.,	Richfield.
Grayhill, W. W.,	Richfield R. D.
Graybill & Gorman,	Richfield.
Keiser, Jonathan,	Thompsontown R. D. 2.
Keiser, John H.,	Van Dyke.
Kelly, E. D.,	Walnut.
Koons, L. L.,	Port Royal R. D. 1.
Leiter, Samuel,	McCalisterville R. D. 2.
Partner, W. L. & Son,	Mifflintown.
Schlegel, Samuel,	Thompsontown.
Spriggle, Ammon,	Richfield.
Stouffer, David B.,	Mifflintown.
Strawser, W. H.,	Oriental.
Turbett, B. A.,	Mexico.
Turbett, Jno. T.,	Port Royal R. D. 1.

LANCASTER COUNTY.

Bacon, C. F.,	Lancaster R. D. 8.
Beiler, C. J.,	Gordonville.
Berder, Charles,	Rock Hill.
Boneberger, Israel,	Brubaker.
Burkholder, Geo. Estate,	Denver.
Bowman, M B.,	Ephrata R. D. 3.
Boem, C. F.,	Lancaster R. D. 8.
Lefever & Brenner,	Witmer.
Brubaker, J. E.,	Lititz.
Burkholder, W. B.,	Bareville.
Burkholder, Martin,	Farmersville.
Buckwalter, Hiram,	Lititz R. D. 3.
Conestoga Traction Co.,	Lancaster.
Dambach, A. S.,	Washington Boro R. D. 1.
Detwiler S. S. Estate,	28 Locust St., Columbia.
Diem, John K,	Intercourse.
Duwings, Henry,	Millersville.
Earl Twp. Road Commissioners,	New Holland.
Eckert, Otto S.,	Lancaster R. D. 5.
Eckman, Chas.,	Quarryville.
Erb, Thomas H.,	Lititz R. D. 3.
Esh, Jacob,	Gordonville.
Falch, Chas. C.,	New Danville.

OPERATOR.	P. O. ADDRESS.
Gantz, F. K.,	Manheim.
Gibbel, Aaron R.,	Ephrata R. D. 2.
Gibbel, Jno. R.,	Lititz.
Givler, Samuel R.,	Ephrata R. D. 4.
Gochnaior, Emil K,	East Petersburg.
Good, Levi,	New Holland.
Graybill, R. D.,	Bareville.
Graybill, S. G.,	Elizabethtown.
Groff, Christian W.,	Bareville.
Hackman, J. L.,	Lincoln.
Hanenstein, J. S.,	Mt. Joy.
Harnish, J. H.,	Windom.
Hatt, Chas. L.,	Ephrata R. D. 1.
Heisey, W. L.,	Rheems.
Hess, Benj. H.,	Pequea Creek.
Heistand, B. F. & Sons,	Marietta.
Hernley, Abram,	Manheim.
Hershey, Abner M.,	Mt. Joy.
Herr, Andrew,	Willow Street R. D. 1.
Hess, Enos H.,	Windom.
Hoffman, Norman R.,	Bainbridge.
Hofmaster, John,	Lancaster R. D. 2.
Hollinger, John B.,	Lexington.
Holt, Clayton H.,	New Holland.
Hostetter, E. M.,	Millersville.
Kauffman, Jacob L.,	Sporting Hill.
Kauffman, Jacob,	Gordon Hill.
Keene, Henry H,.	Quarryville.
Kendig, J. B.,	301 E. Frederick St., Lancaster.
Kaver, Clayton J.,	Lititz R. D. 2.
Kraybill P. S.,	Bainbridge.
Lancaster Lime & Supply Co.,	154 Queen St., Lancaster.
Lancaster & New Danville Pike Co.,	Lancaster R. D.
Leaman, Isaac K.,	Bird in Hand.
Lefever, David E.,	Millersville R. D. 1.
Lindsay, R. K.,	Gordonville.
McIlvaines, J. P. Sons,	Paradise R. D. 1.
Martin, Tobias Z.,	New Holland.
Martin, Jones H.,	Goodville.
Mellinger, F. G.,	Millersville.
Metzgar, A. L.,	Manheim.
Miley, Devan,	Brubaker.
Millard, J. B. & Son,	Lebanon.

OPERATOR.	P. O. ADDRESS.
Miller, Henry G.,	Lancaster R. D. 2.
Minnich, N. B.,	Lititz R. D. 2.
Muth, W. H. & Co.,	Lititz.
Myers, E. A.,	Columbia R. D. 1.
Weiss, Dr. Alfred,	Lebanon.
Newswanger, Henry S.,	East Earl.
Nolt, Eli H.,	Ephrata R. D. 4.
Nolt, Harvey H.,	Columbia.
Peirce, Frank L.,	Rheems.
Ranck, Adam S.,	Leaman Place.
Rankin, Mrs. Elizabeth,	West Willow R. D.
Ranck, J. L.,	Strasburg.
Risser, C. R.,	Lititz.
Reist, John G.,	Rheems.
Rettew, Willis,	Bird in Hand.
Robinson, Chas. J.,	Gap R. D. 2.
Roppold, Morris,	Denver.
Royer, M. R.,	Ephrata R. D. 4.
Rutt, Geo. O.,	Blue Ball.
Searight, Martin B.,	Ephrata R. D. 3.
Seldomridge, Jeremiah Estate,	Gordonville.
Shaub, Walter,	738 E. Chestnut St., Lancaster.
Smoker, Levi K.,	Gordonville.
Sprecher, L. C.,	Strasburg R. D. 2.
Staff, Jacob,	Holsingers.
Stauffer, Chas. F.,	32 N. Duke St., Lancaster.
Stauffer, S. W.,	East Earl R. D. 2.
Stoltsfus, Gideon B.,	Gordonville.
Strohm, I. G.,	Ephrata R. D. 3.
Stauffer, J. N. & Bros.,	Mt. Joy.
Steffy, Noah C.,	Narvon.
Wenger, Samuel R.,	Bareville R. D. 1.
Witmer, Amos N.,	East Earl.
Witmer, Henry M.,	Safe Harbor R. D. 2.
Worst, Fred S.,	Gap R. D. 1.
Zerfass, Rev. S. G.,	Ephrata.
Zimmerman, Jno. G.,	Narvon R. D. 1.
Zittle, Adlus,	Strasburg R. D. 2.

LAWRENCE COUNTY.

Allen, W. B.,	Volant.
Beaver Valley Lime Co.,	Ellwood City.
Bessemer Limestone Co.,	Youngstown, O.
Cambria Limestone Co.,	Wampum.

OPERATOR.	P. O. ADDRESS.
Carbon Limestone Co.,	712 Stambaugh Bldg., Youngstown, O.
Crescent Portland Cement Co.,	Wampum.
Clydesdale Limestone Co.,	Pittsburg.
Consolidated Stone Mining Co.,	1401 Farmers Bank Bldg. Pittsburgh.
Croton Limestone & Brick Co.,	Wallace Bldg., New Castle.
Erie Limestone Co.,	Erie.
Interstate Limestone Co.,	712 Stambaugh Bldg., Youngstown, O.
Johnston G. W. Limestone Co.,	New Castle.
Lake Erie Limestone Co.,	906 Wick Bldg., Youngstown, O.
Lawrence Limestone Co.,	New Castle.
McCune, Wm.,	Volant R. D. 1.
Midland Limestone Co.,	Pittsburg.
Miller Bros.,	Volant.
Mohoning Limestone Co.,	Carnegie Bldg., Pittsburgh.
New Castle Portland Cement Co.,	New Castle.
New Castle Limestone & Clay Co.,	New Castle.
Petersheim, C. L.,	Ronks R. D. 1.
Pittsburgh Crucible Steel Co.,	Pittsburg.
Pittsburgh Limestone Co.,	New Castle.
Rose Point Stone & Lime Co.,	Volant.
Shenango Limestone Co.,	Leetonia.
Totten, R. J.,	New Wilmington.
Union Limestone Co.,	906 Wick Bldg, Youngstown.

LEBANON COUNTY.

Alspach, Henry,	Johnstown R. D. 2.
American Iron & Steel Manufacturing Co.,	Lebanon.
Annville Lime Co.,	Annville.
Becker, Mary C. & Sallie A.,	Womelsdorf.
Bennetch, J. Henry,	Richland.
Binner, Joseph,	Lebanon.
Blastein, Jere E.,	235 9th St., Lebanon.
Boyer, John,	Annville.
Bradley, Walter T.,	9th St. & Girard Ave., Philadelphia.
Brensinger, E. H.,	424 S. 6th St., Lebanon.
Calcite Quarry Co.,	Annville.
Cornwall Ore Bank Co.,	Cornwall.
Albert, Grant E.,	Grantville.
Ebling, John,	Myerstown.
Erb, John R.,	Newmanstown R. D. 1.
Emigsville Quarry Co.,	York.
General Crushed Stone Co.,	Easton.
Gloninger Lime Co.,	Lebanon.
Good, H. S.,	Ono.

OPERATOR.	P. O. ADDRESS.
Hatlieb & Bros.,	Lebanon.
Hanck, A. B.,	6th & Locust St., Lebanon.
Hilbert, John F.,	Alburtis.
Imboden, S. K.,	Annville.
Koons, W, H.	Granville R. D. 2.
Kurtz, Harry S.,	Lebanon R. D. 7.
Lackawanna Steel & Iron Co.,	Lebanon.
Lebanon Stone Co.,	8th & Cumberland Sts., Lebanon.
Mase, H. J.,	Schaefferstown R. D. 1.
Messinger, Henry,	Cleona.
Millard, J. B. & Son,	Lebanon.
Rank, A. S.,	Palmyra R. D. 1.
Reegel, Daniel,	Jonestown R. D. 2.
Risser, D. L.,	Cornwall R. D. 6.
Shack, Jacob B.,	Avon.
Shuey, A. B.,	Grantville R. D. 2.
Slesser, Daniel,	Palmyra.
Smith, Henry K.,	Palmyra.
Stoner, A. B.,	Lebanon.
Thomas Iron Co.,	Easton.
Wagner, Thos. A.,	Myerstown.
Wentling, Joseph F.,	Annville R. D. 3.
Westenberger, C. H.,	1103 Mifflin St., Lebanon.
Whitehall Portland Cement Co.,	Philadelphia.
Witter, Jno. H.,	Newmanstown.
Yeager, J. S.,	Myerstown.

LEHIGH COUNTY.

Christman, J. D.,	Macungie.
Diehl, Alfred,	Allentown.
Eberhart, Ferdinand,	1001 N. 3rd St., Catasauqua.
Erich, Geo. F.,	230 S. 17th St., Allentown.
Erney, Erwin G.,	Limeport.
Fink, Mrs. James F.,	Limeport.
Fullerton Stone Co., Ltd.,	Fullerton.
Hardner, Geo. H.,	Allentown.
Leh, O. E..,	Egypt.
Leh & Peters,	Egypt.
Lehigh Valley Transit Co.,	Allentown.
Milson, Daniel, Jr.,	110 Bridge St., Catasauqua
Neimeyer, Robert G. A.,	Emaus.
Newhall, Francis J.,	Allentown R. D. 3.
Radler, Chas. A.,	Macungie.
Saeger & Storch Quarry,	Catasauqua.

OPERATOR.	P. O. ADDRESS.
Sehmoyer W. S. & Co.,	Macungie.
Steinmetz, Dr. E. G.,	Hokendauqua.
Stetler, Israel,	Trexlertown.
Trexler, Theo E.,	Allentown R. D. 1.
Upper Macungie Township,	Fogelsville.
Walbert, John A.,	Macungie.
Weaver Quarry Co.,	1307½ Chew St., Allentown.
Wehr, Frank J.,	Allentown R. D. 1.
Yeakel, Daniel A.,	Zionsville R. D. 1.
Ziegenfuse, C. H. & Co.,	143 Second Ave., Bethlehem.
Zeigenfuse, Heiberger & Co.,	1445 Turner St., Allentown.

LYCOMING COUNTY.

Artley, T. N.,	Hughesville.
Baker, H. C.,	Allenwood
Benning, Chas.,	Mountoursville.
Best, John,	Montgomery R. D. 2.
Eck, David F.,	Collomsville.
Eiswert, Lawrence,	Jersey Shore R. D. 4.
Fox, J. B. & Co.,	Williamsport.
Franklin Lime Co.,	347 Pine St., Williamsport.
Jones, Henry Est.,	Jersey Shore.
Kilgus, Henry,	Hughesville R. D. 2.
Koch, L. F.,	Mountoursville R. D. 4.
McConnell, W. E.,	Hughesville R. D. 1.
Reeder, M. E.,	Muncy R. D. 5.
Shick, Albert,	Mountoursville.
Stutz, Mathias,	Mountoursville.
West Braneh Lime & Fertilizer Co.,	Williamsport.

MERCER COUNTY.

Miller, Adam,	11 Griswold St., Sharon.
Oakes Bros.,	Volant R. D. 6.
Russell, E. J.,	Greenville.
Sharon Coal & Limestone Co.,	940 Carnegie Bldg., Pittsburg.
The Stone Produets Co.,	Sandy Lake.

MIFFLIN COUNTY.

Cambria Steel Co.,	Johnstown.
Foltz, Joseph M.,	Lewistown.
Hawke, Shed,	Lewistown.
Haner, Benj. J.,	Grantsville.
Haner, Amos,	Grantsville.
Hartzler, Levi Z.,	Belleville.

OPERATOR.	P. O. ADDRESS.
Headings, F. E.,	Allensville.
Kauffman, C. G.,	Lewistown R. D. 1.
King, Joseph,	Allensville.
Lewistown & Kishacoquillas Turnpike Co.,	Lewistown.
Long, Isaac,	Mattawana.
Mayes, A. C.,	Lewistown.
McKee, T. M.,	Lewistown.
McNabb, John L.,	Belleville.
McNitt, W. D. & S. B.,	Milroy R. D. 1.
Milroy Cement Co.,	Milroy.
Nale, Harry L.,	Siglersville.
National Limestone Co.,	Naginey.
Peachey, S. W.,	Belleville.
Peachey, J. Y.,	Allenville.
Peachey, David E.,	Belleville.
Sterrett, John,	Milroy.
Treaster, J. R.,	Milroy.
Warner, James M.,	Belleville.

MONROE COUNTY.

Faulstick, Geo.,	Saylorsburg R. D. 2.
Metzgar, Allen,	Stroudsburg R. D. 1.
Schaffer, A. P.,	Kunkletown.
Schaffer, Peter P.,	Kunkletown.
Stroudsburg Boro,	Stroudsburg.
Williams, Allen,	Stroudsburg R. D. 1.

MONTGOMERY COUNTY.

Cannon, Edw. A.,	Willow Grove.
Corson G. & W. H.,	Plymouth Meeting.
Cox Lime & Stone Co.,	Plymouth Meeting.
Derr, Walter,	Norristown.
Lavino, E. J.,	Bullitt Bldg., Philadelphia.
Lukens & Yerkes,	924 Stephen Girard Bldg., Philadelphia.
Merion Lime & Stone Co.,	Norristown.
Morgan Brick Co.,	Bridgeport.
Morton, Wm.,	North Wales, R. D. 1.
O'Brien, Louis H.,	W. Conshohocken.
O'Neal Stone Co.,	Conshohocken.
Potts, W. W.,	Norristown.
Rambo Lime Co.,	Norristown
Richardson Bros. Quarry Co.,	904 Penna. Bldg. Philadelphia.
Roberts, D. E. & Son,	Fort Washington.
Tyson, Jacob L.,	Bridgeport.

OPERATOR.	P. O. ADDRESS.
Valley Electrie Crushing Co.,	Norristown.
Warner, Chas. Co.,	Wilmington, Del.

MONTOUR COUNTY.

Bennett, T. H.,	Danville R. D. 2.
Billmeyer, Alex.,	Washingtonville.
Clark, Robert J.,	Island Park.
Coleman, Cyrus,	Milton R. D. 1.
Cook, Chas. W.,	Danville R. D. 4.
Dean J. Wallaee,	Strawberry Ridge.
Mauser Alonzo,	Grovania.
MeMahon, John B.,	Bloomsburg.
Moser, Peter C.,	Strawberry Ridge.
Moser, Jaeob B.,	Watsontown.
Moser, J. W.,	Turbotville.
Sehoch & Appelman,	Bloomsburg.
Sehultz, C. W.,	Strawberry Ridge R. D. 1.
Schultz, W. C. & Son,	Strawberry Ridge.
Strouss, David,	Strawberry Ridge R. D. 1.
Umstead, Benj. F.,	Washingtonville.

NORTHAMPTON COUNTY.

Aeker, John,	Nazareth.
Atlantie Portland Cement Co.,	Nazareth.
Baehman I.V.,	Easton R. D. 5.
Bethlehem, City of	Bethlehem.
Bethlehem Lime & Stone Co.,	Bethlehem.
Boehm Wm. A.,	Hillestown.
Campbell, Jaeob,	Bingen.
Deek, L. C.,	Bethlehem R. D. 2.
Easton Lime Co.,	16 Bank St., Easton.
Fitzgerald Speer & Co.,	Easton.
Fyler, Osear, Mrs.,	2236 Hawthorn St., Swissvale Sta., Pittsburg.
General Crushed Stone Co.,	Easton.
Greene, Elbert J.,	1027 3rd St., Catasauqua.
Hoek & Lereh,	Bethlehem.
Hoffman, Milton C.,	Raubsville.
Heller, H. D.,	Hellertown.
Hess Bros.,	Hellertown.
Island Park Lime & Stone Co.,	Easton.
Keller, Luther,	813-815 Loeke Ave., Seranton.
Koeher Bros.,	16 N. Bank St., Easton.
Kramlieh, E. C.,	1353 Turner St., Allentown.
Lilly White Cement Co.,	Nazareth.

OPERATOR.	P. O. ADDRESS.
Meches, Timothy,	Bethlehem R. D.
Miller, John I., Est.,	Portland.
Mulleneaux, J. Edward,	East Canal St., Easton.
Nicholas, Stewart L.,	Easton R. D. 5.
Northampton Portland Cement Co.,	Easton.
Northampton Quarry Co.,	Northampton.
Rohn, Edwin F.,	Bethlehem R. D. 1.
Ruch Jas, & Son,	Northampton.
Trumbone P. S.,	Nazareth.
Wagner, John,	Hellertown.
Wagner, Laubach & Bachman,	Hellertown.
Witmer, W. H.,	Dalmatia.
Ziegenfuse, C. H. & Co.,	143 Second St., Bethlehem.

NORTHUMBERLAND COUNTY.

Bingam, Wm. E.,	Hickory Corners.
Blue, W. J.,	Hickory Corners.
Bouer, Galen,	Urban.
Boyer, B. O.,	Hickory Corners.
Boyer, S. A.,	Hebe.
Byerly, Jonathan M.,	Mandata.
Byerly, John A.,	Hickory Corners.
Clemens, Abram,	Milton.
Clewell, D. A.,	Milton R. D. 1.
Derr, Geo.,	Tarbotville.
Emerick, Geo. M.,	Box 58 R. D., Pillow.
Engle, W. S.,	Dalmatia.
Evans, B. W.,	Turbotville.
Ferster Bros.,	Mahonoy.
Ferster, Samuel,	Mahanoy.
Fiss & Hartman,	Shamokin Dam.
Frederick, D. P.,	Milton.
Grim & Lenker,	Mandata.
Heckert, B. F.,	Dalmatia.
Herb, J. M.,	Herndon.
Hollenbaugh, John,	Urban.
Keible, Samuel,	Urban.
Koch, Wm. H.,	Pottsgrove.
Krumm, Frank E.,	Milton R. D. 3.
Markle, Benj. I.,	Mandata.
Martz, Geo.,	Shamokin.
McCaleb, Mrs. Mary B.,	27 Front St., Harrisburg.
Moser, Henry,	Turbotville.
Neidig, H. M.,	Sunbury R. D. 4.

OPERATOR.	P. O. ADDRESS.
Phillips, Elias,	Hickory Corners.
Phillips, E. K.,	Urban.
Phillips, Wm. P.,	Urban.
Phillips, C. R. & W. B.	Urban.
Radel, Elmer J.,	Hickory Corners.
Schlegel, Rudy,	Urban.
Schlegel, Edward,	Herndon.
Seiler, Geo. H.,	Northumberland R. D.
Shaffer, Aaron,	Urban.
Shotts, Adams,	Hickory Corners.
Straub, John L.,	R. D. 3 Bx., 102 Milton.
Snyder, R. R.,	Sunbury R. D. 4.
Watson, Frank T.,	Northumberland.
West Chillisquaque Twp,	Milton R. D. 3.
Wiest, F. M.,	Dalmatia.
Wolf, Wm. & Son,	Herndon.
Wolfe, E. C.,	Potts Grove.

PERRY COUNTY.

Allbright, Maggie J.,	Newport R. D. 3.
Beard, J. E. & Robert,	Newport R. D. 2.
Bentzell, W.,	Shermansdale.
Billman, Daniel,	Alinda.
Block, H. H.,	New Bloomfield R. D. 2.
Bower, John,	Landisburg.
Boyle, O. H.,	Landisburg.
Clark, M. W.,	New Bloomfield R. D. 1.
Garber, W. C.,	Andersonburg.
Goff, C.,	New Bloomfield R. D. 1.
Loy, Edward R.,	Loysville R. D. 2.
Lupfer, C. C.,	Shermansdale R. D.
McVey, C. E.,	Blain.
Neely, J. C.,	Landisburg.
Rice, James H.,	Alinda.
Rumbaugh, C. J.,	Millerstown R. D. 2.
Snyder, Geo. B.,	Ickesburg.
Super, W. L.,	New Bloomfield R. D. 1.
Ward, W. H.,	Millerstown.
Wetherell, Josiah,	Millerstown.

SCHUYLKILL COUNTY.

Cressona Lime Co.,	Cressona.
Hill, Alfred,	Snyders.

OPERATOR.	P. O. ADDRESS.
Kistler, C. S.,	Mantz.
Rex, Harvin F.,	Bowmantown.

SNYDER COUNTY.

Boyer, Irwin,	Mt. Pleasant Mills.
Clark, Geo.,	Mt. Pleasant Mills.
Druse, Geo. H.,	Mt. Pleasant Mills.
Folkrod, Chas.,	Richfield.
Foltz, J. F.,	Richfield.
Kerstettler, Geo.,	Richfield.
Moyer, W. K. & Stroup, W. K.,	Mt. Pleasant Mills.
Phillips, Frank,	Mt. Pleasant Mills.
Swineford, W. A.,	Richfield.

SOMERSET COUNTY.

Armagast, Jeremiah & Son,	Hooversville.
Ash, Levan,	Friedens R. D. 1.
Baker, Samuel,	Elk Lick.
Bare, Wm. G.,	Sand Patch R. D. 1.
Barnhart, Wm. Lincoln,	Stoyestown.
Beachley, Jno. C.,	Somerset R. D. 5.
Beachley, O. W.,	Somerset R. D. 5.
Berkley, Lewis,	Berlin.
Bowman, P. J.,	Boswell R. D. 1.
Brant, U. M.,	Berlin R. D. 1.
Brant, W. J.,	Rockwood.
Brant, F. O.,	Berlin R. D. 5.
Brougher, J. Wesley,	Somerset R. D. 4.
Brubaker, Geo. P.,	Berlin.
Bueckley, I. D.,	Stoyestown R. D. 1.
Burnworth, C. O.,	Confluence.
Butler, Geo. C.,	Confluence.
Clark, N. G.,	Hollsopple.
Cover, Jesse W.,	Boswell, R. D. 1.
Cramer, John A.,	Listonburg.
Croyle, A. J.,	Boswell R. D.
Custer, Jonas,	Somerset R. D. 5.
Duppstadt, Chas.,	Stoyestown.
Enos, Jacob,	Bakersville.
Felix, L. G.,	Shanksville R. D. 2.
Flick, Isaiah E.,	Somerset R. D. 4.
Freedline, J. E.,	Boswell R. D. 1.
Freedline, Wm.,	Somerset R. D. 6.
Fritz, A. E.,	Friedens, R. D. 1.

OPERATOR.	P. O. ADDRESS.
Fritz, Simon P.,	Pine Hill.
Fritz, W. H.,	Garrett.
Fritz, Geo. A. & Son,	Stoyestown.
Glessner, J. D.,	Berlin R. D 1.
Glessner, F. P.,	Berlin R. D.
Glessner, A. G.,	Shanksville.
Glessner, J. R.,	Shanksville R. D. 1.
Glover, John C.,	Confluenee.
Gohn, John R.,	Stoyestown R. D. 1.
Gumbert, J. H.,	Berlin R. D. 2.
Hanger, S. M.,	Berlin R. D. 1.
Hay, W. J. R.,	Somerset R. D. 4.
Hay, Norman D.,	Meyersdale R. D. 2.
Hay, R. M.,	Meyersdale R. D. 3.
Horner, Ruben,	Boswell R. D. 1.
Horner, Nathaniel,	Stoyestown.
Kimmel, H. R.,	Somerset R. D. 3.
King, Wm. R.,	New Lexington.
Keystone Lime Co.,	Elk Liek.
Knepper, E. M.,	Berlin.
Landis, Joel,	Berlin.
Lavan, Jaeob,	Somerset R. D. 4.
Lohr, R.,	Hooversville.
Miller, Edward H.,	Shanksville.
Miller, A. G.,	Shanksville R. D. 1.
Miller, Wm. H.,	Stoyestown.
Pletcher, A. B.,	Somerset R. D. 1.
Ream, Wm.,	Friedens R. D. 2.
Rhoads, A. B.,	Berlin.
Rininger, W. M.,	Kantner.
Ringer, John,	Confluence.
Ringer, N. S.,	Grantsville, Md.
Shaulis, Gideon,	Bakersville.
Sipe, John L.,	Friedens, R. D. 1.
Snyder, H.,	Rockwood.
Suder, Irwin H.,	Berlin R. D. 1.
Stufft, J. B. W.,	Ralphtown.
Tayman, L. D. H.,	Somerset.
Trexel, Fred.,	Boswell.
Walker, D. H.,	Somerset R. D. 5.
Walker, F. J.,	Garrett R. D. 1.
Wechtenheiser, John H.,	Berlin.
Weigle, David,	Shanksville.
Witmer, Wilson,	Rockwood R. D. 1.

OPERATOR.	P. O. ADDRESS.

SUSQUEHANNA COUNTY.

DePrice, Gordon,	53 Jackson St., Montrose.

UNION COUNTY.

Bilger, H. S.,	Winfield R. D. 2.
Francis, Uriah,	Lewisburg R. D. 2.
Frock, Henry,	New Berlin.
Gearhart, M. R.,	Lewisburg R. D. 1.
Galloway & Meek,	Allenwood.
Grabb, Samuel,	Swengel.
Grove, A. B.,	Milton R. D. 4.
Hause, Percy O.,	New Columbia.
Miller, Geo. P.,	82 University Ave., Lewisburg.
Mitchell, John,	Millmont.
Pick, Clarence,	Millmont.
Raker, Noah,	Mifflinsburg.
Reighard, Miss Sue,	Mifflinsburg.
Ruhl, Bros.,	Swengel.
Reisch, Isaac Est.,	Millmont R. D. 1.
Rohland, Frank,	983 Neil Ave., Columbus, O.
Slifer, A. C.,	Lewisburg.
Shaeffer, Lewis A.,	Lewisburg R. D. 2.
Smith, W. E. Estate,	Millmont.
Snyder, Emanuel N.,	Mifflinburg R. D. 2.
Spiegelmeyer, J. W.,	Mifflinburg R. D. 4.
Vance, & Co.,	Winfield.
Yost, Chas.,	Lewisburg R. D. 3.

VENANGO COUNTY.

Shaffer High Grade Lime Co.,	Emlenton R. D. 1.
Wampler, Albert,	Franklin.

WASHINGTON COUNTY.

Brownsville Construction Co.,	Brownsville.
Citizens Water Co.,	Washington.
Clarke, J. J.,	Washington R. D. 6.
Closser, D. H.,	Washington R. D. 3.
Curry, Hugh,	Washington.
Horner, H. C.,	Washington R. D. 8.
Knestrick, A. C.,	Amity.
McClanes, M. W. & Sons,	Washington.
Moninger, John A.,	Washington R. D. 4.
Moninger, J. Wildon,	Washington R. D. 4.
Pickett, Wm. & Co.,	110 N. Lincoln St., Washington.

OPERATOR.	P. O. ADDRESS.
Smith, Henry,	Finleyville R. D. 1.
Stewart, W. W.,	Finleyville.
Wordburn, H.,	Finleyville.

WESTMORELAND COUNTY.

Allshouse, A. M., Jr.,	Greensburg R. D. 1.
Anderson, C. F.,	Jones Mills.
Baker, S. J.,	Greensburg R. D. 1.
Baker, J. M. (Road Master)	Ruffsdale.
Barnhart, Frank D.,	Mt. Pleasant.
Baum, R. H.,	Greensburg.
Baldridge, W. H.,	Latrobe.
Bennett, J. W.,	Alverton.
Berlin, Lemuel,	Harrison City.
Blair, John Estate,	Irwin.
Branner, C. H.,	Stahlstown.
Brindle, E. L.,	Latrobe.
Booth & Finn Ltd.,	1942 Forbes St., Pittsburg.
Brownsville Coal Co.,	Ruffsdale.
Budd, A. N.,	West Newton.
Burd, H. C.,	Wilpin.
Burgher, A. L.,	Stahlstown.
Buzzard, J. A.,	Irwin R. D. 3.
Buzzard, W. H.,	Arona.
Buzzard, Amos,	Irwin.
Byers, Frank T.,	Mt. Pleasant.
Campbell, J. B.,	Yohogany R. D. 1., Box 38.
Cauffield, W. A.,	New Florence R. D. 4.
Clohessy, M.,	Irwin.
Coffman, W. S.,	New Alexandria.
Cox, Robert,	New Alexandria.
Crabtree, James,	Jones Mills.
Cunningham, Chas.,	Mt. Pleasant.
Daily, Wm. V.,	Latrobe.
Darr & Roadman,	Stahlstown, Box 12.
Derflinger, R. J.,	West Newton.
Dewees, J. A.,	Yohogany.
Elder, J. C.,	New Alexandria.
Elliott, Wm.,	New Alexandria.
Emig, John A.,	Hellam.
Farmer, F. A.,	Irwin.
Funk, W. E.,	New Stanton R. D. 1.
Fenton, Alowsa,	Mt. Pleasant R. D. 2.
Fisher, S. B.,	United.

OPERATOR.	P. O. ADDRESS.
Finley, Clarence M.,	Bell Vernon.
Fox, John K.,	Mt. Pleasant R. D. 1.
Fox, A. S.,	Mt. Pleasant.
Fox, Christopher,	Alverton
Frazee, W. W.,	Washington R. D. 4.
Freeman, Reuben,	Rodney.
Fullerton, John,	Yukon.
George, W. S.,	Yohoghany R. D. 1.
Gongaware, Harry J.,	Irwin R. D. 3.
Gongaware, Walter,	Irwin R. D. 3.
Gongaware, Heirs,	Jeanette R. D. 1.
Groham, Wm. B.,	New Florence.
Grant, Robert,	Irwin.
Greene, Mrs. Josie,	Mt. Pleasant R. D. 1.
Gress, Jacob H.,	Pleasant Unity.
Gwynn, Morrison,	Smithton.
Hackley, Alois Heirs,	Youngwood.
Haberlen, A. F.,	Latrobe R. D. 3.
Hamil, H. C.,	New Florence.
Harrold, S. L.,	Manor.
Hartzell, Geo. M.,	Weltz.
Harrold, H. E.,	Greensburg R. D. 2.
Hays, Chas. E.,	Latrobe R. D. 1.
Hill, C. E.,	Apollo R. D. 1.
Hissem, R. K.,	Mt. Pleasant.
Hitchman, John D.,	Mt. Pleasant.
Hoffman, Jacob G.,	Latrobe R. D. 1.
Hout, Jacob J.,	West Newton R. D. 1.
Horner, A. Brooks,	Mt. Pleasant.
Hudson, J. B.,	Scottdale.
Hugus, Paul Heirs,	Latrobe R. D. 3.
Huffman, Amos M.,	Latrobe R. D. 1.
Huffman, A. O.,	Latrobe R. D. 1.
Hunter, Mrs. Mary A.,	Mt. Pleasant.
Hunter, J. R.,	Greensburg.
Johnson, Robert M.,	Crisp.
Keck, J. M.,	Mt. Pleasant R. D. 2.
Keller, S. W.,	Stahlstown.
Kemmerer, Peter,	Jeanette.
Kepple, D. H.,	New Alexandria.
Kerr, W. H.,	Claridge.
Keystone Coal & Coke Co.,	Greensburg.
King, W. S.,	Mt. Pleasant R. D. 1.
Kintz, J. F.,	Hostetter.

OPERATOR.	P. O. ADDRESS.
Kline Bros.,	Jeanette R. D. 1.
Kunkle, John E.,	Greensburg.
Latrobe Coal Co.,	Latrobe.
Lauffer, G. G.,	Harrison City.
Lemon, W. G.,	Mt. Pleasant.
Lesh, John,	Yohoghany.
Levrio, Peter,	Blairsville R. D.
Macbeth, W. H.,	Alverton.
Munmaw, Geo. R., Estate,	Scottdale.
Marron, Peter,	New Alexandria.
Marsh, F. L.,	Mt. Pleasant.
Martin, J. O.,	Ruffsdale R. D. 1.
McCracken, Jas. M.,	Bolivar.
McFarland, Sara E.,	Blairsville.
McGrew, E. G.,	Yohoghany.
McGrew, W. M.,	Freeport.
McLain, B. C.,	Smithton.
Miller, C. J.,	Greensburg.
Miller, J. B.,	Latrobe.
Miller, L. K.,	Stahlstown.
Milligan, Harry,	West Newton R. D. 1.
Miller, A. J.,	Jones Mills.
Moore Mrs. Eliza.	Greensburg.
Montgomery, Flora,	West Newton.
Morrison Mrs. Lavinia,	Millwood
Murphy, John,	Bolivar R. D. 1.
Newherter, Wm.,	Blairsville R. D. 3.
Newell, Presley,	Mt. Pleasant R. D. 2.
Nichols, J. C.,	BelleVernon.
Parehall, W. W.,	New Alexandria.
Patterson, C. T.,	New Alexandria.
Peoples, R. M.,	Ligonier.
Penn Lime Produets Co.,	1501 Machesney Bldg., Pittsburg.
Pollins, John W.,	319 Penn Ave., Greensburg.
Porter, A. J.,	Seottdale.
Plischke, Elizabeth,	Greensburg.
Pitt Construction Co.,	Fulton Bldg., Pittsburg.
Ray, T. J.,	West Newton.
Reese, Gay,	Jones Mills.
Rumbaugh, Kate M.,	Mt. Pleasant.
Reynolds, Mrs. Eliza B.,	Southwest.
Rumbaugh, A. M.,	Mt. Pleasant.
Roadmaster,	Ruffdale.
Robb, C. M.,	Ligonier R. D. 2.

OPERATOR.	P. O. ADDRESS.
Robb, W. H.,	Ligonier R. D. 2.
Rosensteel, John,	Greensburg R. D. 2.
Rostraver, Twp.,	Belle Vernon.
Ruff, S. R.,	Mt. Pleasant R. D. 1.
Sampson, B. L.,	West Newton.
Sanner, Adams,	Greensburg, R. D. 2.
Scott, Mrs. Catherine,	Greensburg R. D. 4.
Shaw, D. N.,	Irwin.
Sherrick, Isaac,	Mt. Pleasant.
Shoemaker, M. P. & Bros.,	Greensburg R. D. 1.
Simpson, J. N.,	New Alexandria.
Sisters of Charity, (H. W. Miller, Farm Mgr.)	Greensburg.
Sowash, John,	Claridge.
Smith, Jos. W. Heirs,	New Florence R. D. 4.
Smith, Wm. R.,	Latrobe.
Squibb, John,	New Derry.
Stahl, R. A.,	Jones Mills.
Steiner, Isaac,	New Stanton.
Steel, Albert,	Greensburg R. D. 4.
Stoner, Lyman,	Alverton.
Stoner, H. H.,	Alverton.
Stouffer, John L.,	Southwest.
Strohm, C. W.,	Alverton.
Strohm, Samuel,	Mt. Pleasant.
Strohm, Mrs. Jacob,	Alverton.
St. Vincents Arch Abbey,	Beatty R. D. 3.
Taylor, Jas. B.,	Scottdale.
Thornburgh, Laura D.,	7511 Tioga St., Pittsburg.
Torrence, Jas. F.,	Export.
Trout, Mrs. Amos,	Armbrust.
Ulery, Peter M.,	Jones Mills.
Ulery, G. G.,	Stahlstown.
Vandyke, F. M.,	Greensburg.
Wallace, B. F.,	Irwin R. D. 1.
Wanemaker, John L.,	Claridge.
Warden, J. H. & S. N.,	Mt. Pleasant.
Wegle, W. S.,	Latrobe R. D. 3.
Wible, E. C.,	Greensburg R. D. 1.
Wiley, J. W.,	Yohoghany.
Williams, T. P.,	West Newton
Wineman, Jacob E.,	Youngwood.
Wineland, H. R.,	Ligonier R. D., Box 30.
Wineland, S. H.,	New Florence R. D. 1.
Woodward, L. L.,	West Newton R. D. 1.

OPERATOR. P. O. ADDRESS.

YORK COUNTY.

Beard, B. Frank, ... Wrightsville.
Bittinger, John R., ... Hanover R. D. 6.
Cunningham Bros., ... 1317 W. Philadelphia St., York.
Delaware Products Co., ... 1036 Real Estate Trust Bldg., Philadelphia.
Gise, Charles, ... York.
Gross, J. B., ... R. D. 5., York.
Hartley-Zeigler Co., ... 25 East Market St., York.
Hoke, A. M. &. Co., ... 10 West Market St., York.
Hoke, H. & Son, ... Hanover.
Kottcamp, Chas. E., ... N. George St., York.
Kuntz, John, Estate,, ... Dillsburg.
Miller, Chas. E., ... 420 Prospect St., York.
Miller, James L., ... New Cumberland R. D. 1.
Myers, E. B. & Sons, ... Hanover.
Nelson, Lewis, ... Dillsburg R. D.
Palmer, L. M., ... 80 Beekman St., New York.
Penna Lime Products Co., ... 818 Harrison Bldg., Philadelphia.
Rohrbaugh Bros., ... Hanover R. D. 3.
Schum & Ruhl, ... York.
Steacy & Wilton Co., ... Wrightsville.
Thomasville Stone & Lime Co., ... Thomasville.
Union Stone Co., ... 114 N. George St., York.
Williams Bros., ... Williams Grove.
York Iron Ore & Limestone Co., ... 1000 Baily Bldg., Philadelphia.
York Stone & Supply Co., ... N. E. St. & R. R. York.